The Builder.

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A Memorandum of the Agricultural Show at Battersea.

FINANCIALLY, it seems, the Show of the Royal Agricultural Society in Battersea Park has not been so great a success as was anticipated. Nevertheless, very large numbers of persons visited it, and many of the exhibitors are well satisfied with the result. London has been overdone with sights and meetings; and they who projected them for the time of the International Exhibition miscalculated the imbibitive powers of ordinary mortals. The show was an instructive one; and we hope that they who visited it will not be content with admiring new inventions or improvements; but will, as their opportunities serve, inquire further into them, and adopt them if satisfied. Portable steam-engines, calculated to be of use in many ways, were numerous; and road locomotives, with advanced powers, were turning and twisting about within a ring not much larger than that at Astley's: of brick and tile machines there were many specimens with conflicting claims which should be tested. Apart from the advantages which they must offer to the regular manufacturer, there are many parts of the country where the possession of a small machine would prove of the greatest convenience, and effect much saving.

Messrs. Clayton had a large shed containing brick and tile machines of various sorts in full operation. The medals they have obtained and the testimonials which are published seem to show beyond doubt the excellence of their arrangements.

The sanitary pipe, brick, and tile machine of Mr. William Pearce, of Poole, has claims for consideration. The improvement in it seems to be the introduction of a central stem to support the core of the die, obviating the necessity of the cross-bars or bridges, which have hitherto been a serious defect in the manufacture of large pipes. The upper part of the machine acts as a pug-mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die; and this arrangement, the inventor says, will produce nearly double the quantity, and of a very much superior quality, compared with any machine yet invented. This machine will make sanitary pipes from 3 inches to 24 inches in diameter. His pug-mill, for the purpose of preparing clay for brick-making and pottery purposes, consists of a cast-iron cylinder, in which the clay is worked by knives, fixed in a central shaft, that cut and press it into a plastic state, of a close and equal consistency. His patent brick machine, for steam or horse power, is similar in principle to the pipe machine, but is made horizontal for the convenience of removing the bricks, which can be produced as fast as it is possible to carry them away. "It is calculated that 1,000 bricks per hour may be obtained when working with two-horse power; but more power can be applied if desirable, and a larger result obtained."

Bulmer & Sharp, with reference to their patent brick and tile machine, say the clay requires no expensive tempering, but simply to be dug, and supplied with water sufficient to reduce it to a plastic state. It is then passed through the pug-mill, in which is fixed a series of screw knives, which press it downwards through two orifices at the bottom, into a chamber, from which, by means of a revolving arm, it is forced through dies, on to the rollers of the cutting frame,—perforated or solid bricks or tiles being produced at pleasure. Each semi-revolution of the arm forces through one of these dies a band of clay sufficient to make from four to six bricks, which is produced at either side of the mill alternately, allowing the clay to be stationary whilst being cut. The arrangement of the chamber at the bottom of the mill, and the arm revolving in it, constitute an important improvement. There would seem to be a difficulty in keeping the cutters free from clay, and unless this be done the sides and angles of the bricks would not be straight and well defined. By hand power alone they profess to produce 5,000 bricks, or 10,000 2-inch draining tiles, per day. The same firm exhibited patent sheds for drying bricks and tiles, which seem to deserve attention. The leading feature of these sheds is their economy of time and fuel. Beneath the fire-flue is an air-flue, which breaks the connection with the ground, thereby preventing the heat from the furnace drawing any moisture from the earth. The heated air from the furnace passes under the whole length of the floor of the shed, at the end of which it rises through openings in the floor into the shed, along which it travels back on its road to the chimney, drying the bricks or tiles on its way, and carrying with it the steam generated in the operation. By means of trays, resting on projecting ribs on the sides of the sheds, five tiers of bricks or tiles may be dried simultaneously. When 60 feet long and 6 feet wide, the sheds will contain 12,500 bricks, which can be thoroughly dried in thirty-six hours, with a consumption of 18 cwt. of small coke, or 1½ cwt. per 1,000 bricks.

Amongst the advantages, they place the fact, that the work can go on in all weathers, both winter and summer. The cost of the fuel is less than the cost of wheeling to and from the "flat ground;" and when wagons are used, there is no expenditure for labour in stacking and re-stacking, and no loss in turning over; and where an engine is used, the waste heat from the boiler can be conducted through the flues, and thus effect a great saving of fuel in drying. Each flue, covering an area only of 7 feet by 60 feet, will hold 12,500 bricks, which can be dried in thirty-six hours, with 18 cwt. of small coke.

As a substitute for bricks of the kind last mentioned, Mr. Lovejoy exhibited what he calls the "Reading Abbey Concrete, or Rubble Stone," claiming for it that it resists moisture, heat, cold, and pressure, presenting a clean and smooth surface, and is capable of formation into mouldings, corbels, quoins, balustrades, bricks, tiles, drain-pipes (of small or large dimensions), and all other kinds of articles suitable for architectural and agricultural purposes, acquiring an extraordinary degree of hardness within a few minutes after leaving the mould. He goes on to say, "Ornamental blocks and slabs of any size can be produced—all the parts of a house—the steps, landings, basement stairs and floors, sinks and window-cills, blocks for the walls, &c., and at a cost below that of bricks, no skilled labour being required." He further considers it equally applicable for large public works, such as banks, sea-walls, and docks. It would seem, however, to be neither more nor less than ordinary concrete of lime and ballast, which is put into moulds. What lime is used we could not learn, and we equally failed to discover anything new in the process adopted. The face of the bricks, or ornamental blocks, necessarily consists simply of lime and sand; and how long this would remain smooth, exposed to wind, rain, and frost, may be doubtful. The patentee points to a house two years old: Mr. Ranger probably could give the result of longer experience. Be this as it may, we are quite satisfied that there are many cases wherein concrete might be used above ground advantageously, and said so years ago, before concrete was generally employed in foundations as it is now. More recently, as our readers know, it has been largely used in blocks, in sea-walls and piers.

Cockey & Son, of Frome, exhibited a handy mortar-mill, costing 6*l.*; and Braggins, of Banbury, a patent adjustable hinge, for field or railway gates, which enables the owner, without the assistance of carpenter or smith, to raise or sink the point or front of the gate in a few minutes; and, in the case of a gate opening both ways, to bring it to its centre, so as to prevent it from remaining open. It seems a useful invention. Francis Morton & Co. go further as to gates and fences, and exhibited their improved field-gate, straining pillars, and fences. The "patent winding straining pillar," made in cast iron, prepared for hanging field-gates, will stretch and always keep perfectly rigid, without expense, every kind of fencing wire, also prepared hoop iron, greatly reducing the cost of fixing, and entirely superseding the necessity for any separate straining tackle. It will strain 400 to 500 yards in one stretch round the sharpest curves or angles, and over the most irregular ground, with the greatest ease and efficiency; and makes the erection of all kinds of wire fences simple and economical. The wire-cable strands are made in long lengths of 500 or 1,000 yards, and are more easily fixed than plain wire.

Scott's glass walls, exhibited by the St. Pancras Ironwork Company, ought to be very largely used. They are constructed so that they may be taken down in autumn for the benefit of the trees, and replaced in the spring for the purpose of sheltering the blossoms from frost, and the tree from an excess of moisture. A gardener and labourer may take down or put up from 200 to 300 feet run. in a day, the glass being stowed away in boxes made expressly for the purpose. It seems clear that, by the use of such walls, many a good crop of fruit may be preserved, which would otherwise be destroyed, and the fruit ripened a fortnight earlier than without their use, while the cost is not great; 10-feet lights, for example, with sheet or rolled plate glass, costing 15s. 6d. per foot run.: the ends and doors are extra.

However, we are not giving an account of the show, which is past and done with. We have simply indicated a few prominent objects which called for attention, and we hope many of our architectural readers examined the exhibition for themselves. The authors of "The Book of Farm Buildings" took a paragraph from "Adam Bede," calculated to do mischief, as a motto for their title-page. Part of it runs thus:—"Now, there's Mr. Irwine has got notions o' building more nor most architects; for, as for th' architects..... most of 'em don't know where to set a chimney so as it sha'n't be quarrelling with a door. My notion is, a practical builder, that's got a bit o'taste, makes the best architect for common things; and I've ten times the pleasure i' seeing after the work when I've made the plan myself." And they further show to whom they desire to transfer the designing of farm-buildings in the preface, where they "venture to hope that the work will take its place as a trustworthy guide to the *mechanic* who may be constructing, or the *agriculturist* who may be planning, highly-interesting varieties of farm-buildings required in the various forms of agriculture practised in the United Kingdom." To this injurious teaching, of course, we object, as we have before objected. It is the more noticeable as one of the authors writes himself "engineer" on the title-page. The object of all who desire improvement in farm arrangements should be to direct that way the attention of educated architects; and, in order that such may be induced to give their attention, to lead the agricultural public to apply to architects. To assist in keeping up the impression that the designing of farm-buildings

should be left in the hands of mechanics and agriculturists, is to throw back, and not advance, agricultural science.

There is yet an immense deal to be done to render farms efficient manufactories of beef, mutton, and other food; and architects should lose no opportunity to increase their stock of data, and apply manure to the field of their intelligence, so that society and themselves may hereafter reap an abundant harvest.

THE PALACE OF ART AND INDUSTRY: ART-DESIGNS.

IN the north-eastern gallery of the eastern transept are arranged the "Art-Designs for Manufactures" (Class 38A of the British Division of the Exhibition), divided as works of *deceased* and *living* artists. The whole number of the designs does not much exceed three hundred, scarcely one-third of them being the productions of the deceased artists—about twenty names in all of the latter. Neither section of the "class" can be considered good in selection or arrangement of the works. Each section, however, contains some designs which either are of great merit, or have a certain interest historically. The names of deceased artists include those of Robert Adam, Cipriani, J. Bacon, Brettingham, Catton, Sir Wm. Chambers, Sir F. Chantrey, Chippendale, Cotterill, Flaxman, Joseph Gandy, Sir John Soane, Kent, Kilburn, Matthias Lock, Nollekens, Pitts, A. W. Pugin, Stothard, Vardy, James Wyatt, and W. Wyon, the works being chiefly contributed by Mr. C. J. Richardson, the South Kensington Museum, Miss Kearsley, and Mr. H. Vaughan. Out of the whole number of productions to which these names are attached, about half are by Stothard.

Of the designs exhibited in the class, which are rightly entitled as "for manufactures," those bearing names of the most celebrated artists deceased, will not stand comparison with the best works, lately produced, of the same branch of art, Stothard's Wellington Shield hardly excepted. The designs by Flaxman (2,752) "for Silver Work (four frames)" contributed from the South Kensington Museum, might have been intended as a demonstration of bad principles, so much is the treatment of the stem of the *tazza* or centre piece, where a figure with the head downwards carries the plateau or dish on its feet, at variance with the architectonic principle, namely the expression of the idea of stability, and of general fitness for the duty of support. The designs for candelabra (2,780, 2,781) by Stothard, like the last, may be chiefly useful in contrasting with designs which are amongst the works of artists, many of whom are affiliated to the Department of Science and Art.

It is, we may allow, curious, that still, there is, as shown in other classes of the Exhibition, a demand for presentation plate of such forms as that of a palm-tree carrying a glass-dish, beneath which may stand a group of animals, or a cannon, or cast anyhow on the base, or ground, are the attributes of the hero and recipient of the testimonial: everything, leaves and bark of the tree, grass and wild-flowers, dress and accoutrements, being pretty closely imitated; whilst the production exhibits not a spark of art. Painters and sculptors however now, when employed by silversmiths, do not we think generally produce works of this latter class. Still, knowing only, or chiefly, the figure, they apply it often in situations where the member, base, stem, bracket, or other portion of the composition having obviously a purpose, would be most consistently treated with direct reference to that use. The French, albeit that they are so remarkable in some of the qualities for artists, as fancy and fertility, are great sinners against the right principles which we have alluded to, and which are needed by the French, no less than the fancy and fertility by us, for the production of work of the highest class. The finest modelling and chasing, or all the attributes of high-art in a figure itself, such a production as there are several of, in prominent positions in the French Court, will not always excuse the making the figure the support for a lamp, and will much less palliate the error of putting the lantern in the place of the spear-head of a standard. The figure would be a beautiful thing, and a more beautiful thing, apart, as a work of sculpture; and the candelabrum, or lamp-pillar, would be a better work of art, designed as candelabrum; whilst this last would allow use of sculpture as an accessory, and with finer effect, general or of detail, than any that can come from the practice referred to, which is a misreading of the elements of the art called decorative and ornamental, and a prostitution of the other art, sculpture. There are hundreds of productions, candelabra for example, by French artists, which are designed with full recognition of the correct principles of design for works of their class; and the works of Vechte, as vases, are evidence to the reasonableness of our argument, that it is possible to combine the largest amount of sculpturesque art with the use of the object decorated, and with the outline and visible formation which may be most consistent with such use. The whole of this subject is one which we have treated at length on many previous occasions. We readvert to it because the recollection of the correct principles of design in art-manufacture will be of assistance in the accurate appreciation of works in the French Court. Speaking of British productions, we have not here alluded to the particular error which has been exemplified by some who might have known better,—as in making a salt-cellar with the receptacle for the salt in the form of a shell, or a match-box in imitation of a Gothic tomb. All these substitutes of an imitated form adapted for one use, for the form adapted for the real use, are, as we have often said, of the nature of practical jokes rather than works of art, and to be classed with beer-jugs in the form of the head of the late Duke of Wellington, which would be equally bad in point of art, as beer-jugs, did they produce the head of an Apollo that might be the finest conception of the ideal. The *real* shell to hold the holy-water, as in the continental churches, is less objectionable than the imitated shell of the sort of art-manufacture above instanced. Confining attention to a higher class of works of art-manufacture; in many of these, which are works of painters or sculptors, architectonic principles and details are as much wanted yet, as we have lately held them to be in public monuments. We must not be supposed to say that the stem of a table-lamp might be for instance, a Corinthian column: the fact of such a form being used for a building should suggest it as out of place for the lamp: but the form for the lamp should be visibly fitted for *its* duty, as the column is to carry the springer of an arch or its portion of an entablature—be the outline straight, or baluster-formed and moulded, and surface-channelled, or ornamented with any description of relief, which like the sculpture on the vases before spoken of, may never destroy the normal form. This is what we recognize and inculcate as architectonic principle, though the details in our mind be not resembling those of buildings. No argument of any importance, in favour of the use of a figure as the support for a lamp, can be drawn from the use of Persians and Caryatides by the ancients; though it would carry us far from our notice of the works in the Exhibition to show that such is the case.

There is however, in Birmingham and London ware-rooms, a large class of works of art-manufacture which avoiding representation of natural forms, and making no use of sculpture, are architectural in so far as they employ scrolls, and acanthus leaves, and enriched mouldings of the more common kinds. This sort of art has prevailed largely with the gasfitters, or those who supply the trade with brackets and "gaseliers." Let the foliage be perfect and the curves harmonious, a defect soon appears in the art, its sameness. There is perhaps nothing more beautiful in ornament than the Roman scroll; as there is no conventional treatment of foliage which surpasses that of the acanthus. But whilst, would we avoid poverty, material of art is necessary; and whilst, would we escape error, models, and precedents are to be kept in mind, there can be no *art* without something more, supplied. The path of novelty is beset with danger: often, the thing found or offered, is either not new and a bad copy, or it is new but tasteless. But novelty is necessary, notwithstanding. In short, neither can novelty excuse art that is considerably inferior to previous art; nor can models and precedents be made to produce art without the combination of invention. The French are especially remarkable for the fertility which we have spoken of, essential to the artist; and they are served by their knowledge of many processes of ornamentation, which like those applicable to surface-decoration, enable them to give pleasing effect in an object having, from the requirements of its use, an originally-unfavourable form. Our own Department of Art produces evidence of much that can be done, with the improvement of public taste, in the same path; and in no respect is more credit due to the Department, than in connexion with this matter of surface-decoration. It is remarkable how much yet may be discovered, that is worthy of study, in that kind of ornamentation, amongst the most uncivilized nations. We would direct attention to some of the objects, exhibited near the "central transept," north side of the building, brought from the interior of Africa. There was probably a chain of communication, though the desert sand has swept over it, between the savage tribes of the interior, and the Roman and Saracen colonizers of the sea-board. But, whatever art may have travelled inland, the posterity of it seems superior to the offspring of western art in India, be it the recent Gothic, or the earlier legacy there from the French Louis XV.

In the list of deceased artists of whose works there are specimens in Class 38A, have been named several architects. The few designs by each of these, will give foreign inquirers no idea of the influence which some of them had, both over the decoration of apartments, and the style and character of English furniture. It would have been most interesting and valuable to all the present race of architects, could the original idea of this section of the Exhibition have been better served by contributions of drawings, and chronological arrangement. By Robert Adam there are two drawings, besides one, a design for a chimney-piece, by Adam & Cipriani. A very large collection of designs by Adam, for buildings and for furniture of every kind, is that in the Soane Museum, heretofore spoken of by us. No one can come from the examination of that collection without a higher opinion of Adam's abilities than is commonly found expressed in books. He was not only one who had some regard for the study of *plan* with the object of architectural effect, but he was not one likely to hand over the completion of his work to the "decorator" and upholsterer. The two drawings (2,731 and 2,732) in the gallery of the Exhibition building, one the "Design for a Capital to be called the British Order," and the other "Design for an Alcove," &c., are the least "representative" of his drawings that we are acquainted with. In the former work, as usual in such attempts, inferiority to the Corinthian capital is the condemnation of the design, which here indeed in the manner of the substitution of the lion and unicorn for *caulicoli*, has not the essentials, symmetry and balance of parts. In the other design, palm-trees are made use of as supports. In chimney-pieces by Adam, Chambers, and Kent, so much was designed in fair quality of taste, that it is wonderful how the art was afterwards allowed to go back, as it was in those details and many others of interior decoration. Neither of the two first artists named is adequately represented by the designs shown. The chimney-piece by Adam and Cipriani (2,733) is just noteworthy for the use of inlaid ornament. Chambers's designs, including one (2,739) "for Guilloche and Capital," 2,740 "for Ceiling," 2,741 "for Chimney-piece, 2,742 "for an Ewer," and 2,743 "for Decoration of Vase and Frieze," would show only that that architect gave attention to architectural detail and some branches of ornamental and decorative art. Besides the drawings, a model is exhibited by Messrs. Vezey & Co., of Her Majesty's State-coach, which was designed by Chambers. The panels of the coach were painted by Cipriani, who also painted the original sketches on the model. The six sheets of designs by Kent (2,755 to 2,760) include the same number of designs for fire-places, the best of them having looking-glass frames over. To this arrangement, of which there are eighteenth-century examples remaining in many houses in London, we have frequently called attention. The more such articles of decoration as mirrors can be made part of the building, and of the architect's design, the more favourable are the circumstances tending to the architectural result. Mirrors and chimney-pieces eventually got into separate hands of manufacturers, and out of the architect's control. Interior decoration is now coming back to its position as a branch of *architecture*; and this is evidenced by many works of the "furniture Class" in the Exhibition, such as Messrs. Trollope's chimney-piece, in the nave, which has the frame or panel for picture arranged quite on the principle of Kent's designs, though the detail is very different. The majority of the gilt-frames for mirrors produced by carvers and gilders, have been for the last fifty years execrable in taste. The veritable Louis XV. had decorative character and a certain beauty about it; and the worst Rococo, with stalactites and bird-cages, was more tolerable for a time, than the clumsy mouldings of George the Third's time, and much of the revived Louis XV., so to name it. The genuine work of the eighteenth century was some years ago, to be picked up at certain shops; and it may still be found to justify us in a good word spoken for the

reputation of two artists, several of whose designs are in the gallery we are examining. These men were Chippendale, by whom there are three frames (2,746) of designs, in the gallery, and Matthias Lock by whom there are four frames, (2,762-3). They are contributed by Mr. George Lock, of Cirencester Place. The date of Matthias Lock's designs is given as 1740 to 1780. Designs by Chippendale are published.

Many of the works, both of deceased and living artists, are placed much too far from the eye for us to make out what they are; and some we have not been able to find at all. The order of numbering works in this Exhibition, is irregular and troublesome to an extent that we have had no previous experience of. By Brettingham we find a "design for interior decoration" (2,735) and by Vardy three or four works (beginning with No. 2,813) of the same class. Who of the rising generation, now knows the name of Joseph Gandy? Yet little it is to their credit to be ignorant of the name. For, Gandy was something more than A.R.A.; he was a true artist, who thought about breadth and grouping, and published some of his ideas, though he did perpetrate the "design for a chandelier" (2,753) which was for Eaton Hall, and like the rest of the Gothic there, as to detail at least, is of the "very tolerable and not to be endured" kind. Gandy had great skill in pictorial compositions of Classic architecture, which he presented with great power of water-colour painting. What has become of his works? By A. W. Pugin there ten or eleven drawings; but the majority of them are very hasty sketches, from which no builder or manufacturer could have worked, without previous notions of what the designer wanted. Drawings or sketches for pavements of the Westminster Palace, by him, are exhibited somewhere by Messrs. Hardman & Co., and Minton, Campbell & Co. Cotterill, the designer of "race cups," some of whose drawings are shown by Messrs. Garrard & Co. (2,747—9); and Pitts, more especially, by whom there is a "Design of Shield of Æneas" (2,765) exhibited by Messrs. Hunt & Roskell, were artists of no common kind. Stothard's drawings seem weak, and wanting in precision, when we look at some of the works of his successors.

Amongst these, passing to the productions of living artists, Mr. H. H. Armstead's "Designs illustrating the History of the Shirley Family" (2,824) deserve high praise. Mr. Felix Summerly's friends' productions we will not criticise closely; we can speak better of what has been done since their day. We find contributed by the Department of Art, the Female School of Art, and the provincial schools, designs for watch-cases, breakfast services, drinking-fountains, black-flounces, chintzes, paperhangings, majolica dishes, silver prize-cups, carpets, chandeliers, glass, book-covers, and many other articles, the majority of which are highly satisfactory, and deserve the attention of manufacturers. Mr. Jackson's designs "for metalwork" (2,887), contributed by Messrs. Elkington & Co.; Mr. E. Cable's "for paperhangings" (2,842); Mr. A. J. Barrett's and Mr. N. Roskell's for Goodwood and other "cups" (2,829, 2,830, and 2,948), contributed by Messrs. Hunt & Roskell; Mr. Owen Jones's numerous designs for covers and pages of illuminated books (2,895); some of the works of the Illuminating Art-Union; Mr. J. Lessels' designs for book-stamps, frontispieces and embossed glass (2,911 and 2,912); Mr. Maclise's series of beautiful designs "for ceramic-ware—the Seven Ages of Man" (2,919), contributed by the Art-Union of London, and his designs "for a bracelet" (2,920) and "for a cup" (2,921); Mr. W. H. Rogers's several designs for wood-carving (2,946) and for the Royal Cradle (2,947), would all deserve particular notice. Some of Mr. Godfrey Sykes's designs, which include several for the arcades of the Horticultural Society's Gardens, are good; the best is the design (2,988) "for bronze doors of a school of art." Mr. M. Digby Wyatt displays a large number of designs (3,021), and for a great variety of objects—including railway carriages; and some of the late Mr. Thomas's designs are here found. Designs for stained glass are exhibited by Messrs. O'Connor (2,930), and Mr. S. Powell (2,937). There is also a design, probably not recent, (2,857) by Mr. Dyce, "for a stained glass window for Alnwick Church, Northumberland." The mullions cut through the figures; the lights are not designed separately. This treatment of stained glass is not, we suppose, approved by the Department of Art, who exhibit the drawings. In a design "for mural decorations by encaustic chalk drawing" (2,856), exhibited by Mr. B. E. Duppa, the drawings are in part by Sir Edwin Landseer. We can further only name, but that should be approvingly, Mr. Alfred Stevens's designs (2,972 to 2,974) contributed by Messrs. Minton, Campbell, & Co., especially one for a vase in Nevers-ware (2,973), and Mr. F. Smallfield's designs (2,961 to 2,963) for metal-work, including a "loving-cup" and a jewel-cup, which are excellent. Art, like poetry, has always its elements existing in the world, and will have ever. Only the mind and hand are wanting at times to bring these elements to expression; but now that the Exhibition has demonstrated, no less in art-designs than in completed works, that British artists can produce works of excellence, it rests with the public to demand good art at the hands of manufacturers; and the public will do well, and fairly, to honour at the same time the men, too little known, who may be not the less great artists, though not painters or sculptors and eligible to the Academy.

A FEW FACTS FOR THE WORKMAN WHO VISITS THE LOAN MUSEUM AT SOUTH KENSINGTON.

A VERY great deal has been written of late years respecting the social and political failings of what is termed the Upper Ten Thousand; and that the subject has not yet been abandoned, is shown by the enormous delight everybody takes in the sayings of that very gentlemanly but half-idiotic nobleman, Lord Dundreary. Of course the great point in all the plays and novels which treat of the aristocrat, is his intense exclusiveness. Both his person and his house, with its contents, are supposed to be guarded with the most jealous care. However, it is now being gradually discovered that the said upper ten thousand live and move and have their being very much in the same manner as other ten thousands who are lower in the social scale; and, although it may occasionally be difficult for a stranger to obtain a view of some private collections should he be unprovided with a proper introduction to the owner, still the exhibitions of art-treasures at the Society of Arts, in 1851, at Manchester, at the Ironmongers' Company, and in the present instance at South Kensington, prove that the English nobleman or gentleman is always willing to deprive himself of his most cherished works of art in order to afford amusement and instruction to his fellow-citizens.

As the present Exhibition is by far the most complete that we have ever had in England, it specially behoves all art-workmen to take advantage of it; and it is the object of the present article to lay before them a few facts which may be useful to them when visiting the magnificent collection at South Kensington. There can be no excuse for those who neglect this opportunity, for the authorities of the Brompton Museum have done a most excellent work in throwing open the Loan Collection upon the same terms as their own collection. The consequence is, that 6d. admits you on the reserved days, and on the public days—one of which, by the way, is Saturday—there is nothing at all to pay. Add to which the fact that the Saturday half-holiday is now generally granted in all large establishments, and there remains really no valid excuse for any workman neglecting the opportunity.

We all know how very fashionable the imitations of Etruscan jewelry have become, and what very great improvements they are upon the usual Parisian patterns. Well, here are several specimens of the original work which show us how very much has yet to be done before we at all equal those men whom we are accustomed to view as a species of semi-barbarians. If we compare the best modern work with the ancient, we are at once struck with the exceeding lightness and grace of the latter; Signor Castellani, of Rome, and his father and brother, have the credit of beginning the restoration of the old method of working; and in the current number of the *Archæological Journal* he tells us the various difficulties he has surmounted, and has still, alas! to surmount; for it is really very galling, in these days of steam-engines and oxy-hydrogen blow-pipes, to be told that the Etruscans had a solder that we cannot obtain,—a matter of chemistry, and not one of art. Signor Castellani informs us that, from 1823 to 1827, his father devoted his attention to the chemical processes in the colouring of gold, "particularly the part played by electricity in phenomena of this nature—a discovery which belongs rightly to him." About the same time, excavations were made among the Etruscan tombs, and Signor Castellani at once set about imitating the exquisite jewelry which was one of the results of these researches. It was found that all of it, with the exception of those articles intended for funeral ceremonies, instead of owing the raised parts to the chisel or the hammer, was formed of separate pieces brought together and placed one upon the other. The great difficulty was the soldering together these minute parts; but, after some very considerable research, it was discovered that a school of workmen were to be found in a remote corner of the marshes of St. Angelo in Vado, who still used some of the processes employed by the Etruscans. These workmen were obtained and set to work; and, by substituting arseniates for borax as solvents, and reducing the solder to an impalpable file dust, very satisfactory results were obtained. The next thing was to commit the more delicate work to women; and this also turned out well. But still Signor Castellani confesses to the want of some method of soldering on the minute gold-dust we so often see in ancient work, which gives the effect of what is called "frosting" in the present day. Another process of the Etruscans was to wind round a gold bead a wire as thin as a hair, which was kept in its place by the same wonderful soldering. A necklace belonging to the Rev. M. Taylor* shows both the above ways of working,—viz., the fine gold-dust and the fine wire. Another necklace (Mr. S. Addington) shows the application of the gold-dust in larger atoms on the muzzles and eyebrows of the lions' heads which hang from it; while a third, belonging to Signor Castellani himself, and said to have been found at Alexandria, proves that the exquisite chains of the Venetian and Indian goldsmiths were fully anticipated before the Christian era. Nor were the ancients less skilful in the art of beating up metal. If we go into the Italian Court of the International Exhibition, we shall find a case containing Signor Castellani's own work. In it, amongst other things, is an imitation of a little head found at Kertch during the late war. It is supposed to represent the Tauric Diana; but, with every wish to render full justice to Signor Castellani, impartial observer would feel himself bound to say that, the imitation falls short of the original. The system of ornamenting jewelry by means of soldering on smaller pieces was probably never lost, and it obtains to the present day in the shape of filigree. Filigree is of two sorts: one, where the article is made entirely of wire bent into various shapes and soldered together; and the other, where this wire is employed to decorate a piece of metal which forms the ground. The former system is employed at the present day; and at Malta, Genoa, and in India the traveller can buy as much of it as he wishes. The Mediæval work, however, was done in the second manner, and generally takes the form of minute ribbons of gold with their edges milled. These ribbons of gold are bent into various shapes, and soldered to the ground and to each other, while the eyes of the scrolls are generally filled with minute globules of gold or silver; the method of making which is given by Cellini in his "Trattati della Oreficeria," where he tells it is effected by pouring melted gold into powdered charcoal. And here it may be remarked, how very great a boon a translation of Cellini's treatise would be to the modern workman. Unfortunately, it would be a task of very considerable difficulty, as the translator would have to combine the qualities of a practical goldsmith, a first-rate Mediæval antiquary, and, above all, of a good Italian scholar. In the present collection, many pieces of filigree will be found scattered up and down the various cases. Thus it occurs in the Anglo-Saxon brooches, in the Jewish wedding-rings (Mr. Waterton), in the triangular chrysmatory in Case 1 (the Mediæval case *par excellence*), in the poison-cup of Clare College, and in very many other instances.

Another method of ornamentation which succeeded filigree about the end of the thirteenth century, was the stamping out or casting of two or more minute leaves with their stalks, and then soldering them together on a large wire, which forms a support, and is yet hidden by the leaves. This sort of work is never *a jour*, but has always a gold background; although I have seen tinsel employed instead, in the shrine of St. Romain, at Rouen. Sometimes the great wire is omitted, and the leaves are soldered on to the ground itself, as in the case of a ring in Mr. Waterton's collection, and in the two curious curved ornaments in Case 1 (Hon. R. Curzon). I have not remarked, in the present collection, any of the first kind, which is soldered on to the strong wire; but a cast of such a piece is to be seen among the casts from ivories, in the Architectural Museum upstairs. I

* The names of the owners are given, as it is the only way of distinguishing the articles. At present there is no catalogue, although the Rev. J. Beck is hard at work upon it. The Greek and Etruscan jewelry is scattered over several cases.

do not know where the original may be; but it is exceedingly curious, as not only is it made up of several sorts of leaves and fruits, but there are little figures of men and animals mixed with them.

Of all the workmen employed in the arts, to no one does the present collection afford a richer treat than to the jeweller. Everybody knows how very rare are the jewels of the Middle Ages, and of the Cinque Cento; yet here they are to be found almost in profusion; while the precious stones are by no means undeserving of study, and among them is the largest pearl known. It is something like 2¼ inches long, and 3½ inches in its greatest circumference. Unfortunately, the shape is exceedingly ungainly, and should the possessor, Mr. A. J. B. Beresford Hope, ever follow the example of another owner of a precious pearl, and drink it dissolved in vinegar, the world would simply lose a great curiosity, but not a beautiful object. Another great attraction is the largest cat's eye known. This, also, is the property of Mr. Hope. But of all gems none yield in interest to those forming the collections of her Majesty, the Duke of Devonshire, and the Rev. Gregory Rhodes; for not only are precious and beautiful stones found in these collections, but they have the still further recommendation of being works of art, and some of them are even justly attributed to the great masters of antiquity. Mr. King, in his most excellent work on engraved gems, lately published, tells us that the art is almost lost in the present day. It is to be hoped, however, that the impetus which his work must naturally give to the study will have the effect of inducing those who can afford it to give commissions for engraved gems; and I have no doubt but that, after a time, the artists will be forthcoming, as they always are when there is a demand for any particular art. In the meanwhile, it should be remembered that no production of human ingenuity is more indestructible than an engraved gem; and it is only by the most positive violence (such as breaking them with a heavy hammer) that they can possibly be destroyed.

The best guide to her Majesty's gems is a paper in the current number of the *Archæological Journal*, by Mr. King. From it we find that the collection consists chiefly of cameos, presenting us with portraits of the great personages of the last three centuries and a half. The principal antique is a cameo, 7½ inches long by 5½ inches wide, representing a profile bust of Constantius II. On the other hand, the collections of the Duke of Devonshire and of Mr. Rhodes consist almost entirely of antiques, some of them containing the names of the artists. There is one intaglio (imperfect) of a cow in the former collection, for which the Duke is said to have given 1,000*l.*, because the subject is a cow with the artist's name beneath, the said artist being mentioned by Pliny as having engraved a certain cow which was greatly admired.

But, after all, the great attraction to the jeweller will be the Cinque-Cento works, so many of which belong to her Majesty. Here we see misshapen pearls, jewels, enamels; rich materials such as jasper or lapis lazuli; and indeed almost every thing that is precious; in juxtaposition. At one time it is the small reliquary of Catherine of Braganza which attracts attention; at another it is Lord Stamford's Christ at the Column, or the Mermaid, or the St. George belonging to the Queen. The pelican jewel of Mr. Majoribanks shows us how diamonds and gold can be effectively employed; while Colonel Comming's little agate beads, which open, and contain enamelled groups of figures, are more curious than beautiful. But of all the jewels of this kind Mr. Beresford Hope's vase takes the lead. This is not the place to try the question as to whether it is or is not the work of Cellini; in fact, we have so few works by that artist, that it is most difficult to say anything with certainty upon the subject. All we know is, that he was a most excellent workman, and that, by his own confession, he did occasionally occupy himself with jewelry. However, there can be no doubt as to the extreme merit of Mr. Hope's vase, and every advantage should be taken of the present opportunity for its most careful study. In fact, a detailed description of it satisfactorily going into the various processes used, would be almost a compendium of the art of jewelry; and the same thing may be said of Mr. Waterton's collection of rings. Suffice it to say that Mr. Hope's vase contains figures enamelled on the round, painted, and champlevé. It contains jewels of many kinds; and the agate vase itself, which forms the nucleus for all this jewelry, is supposed to be an antique.

Mr. Waterton's rings must not be passed over, although a whole volume would hardly suffice to tell the peculiarities of their history and manufacture; for, indeed, there is scarcely a single case in the whole exhibition from which a goldsmith might learn more than from this.

The following very short *catalogue raisonné* will give some little idea of its riches:—

Egyptian, with cartouches containing figures and hieroglyphics.

Grecian.—Engraved figures.

Etruscan, with a sort of mixed art. Some of the figures very stiff, others more like Greek work. One, all gold, has a mark of beaten-up work, most beautifully executed.

Roman.—Iron rings of slaves, containing engraved stones. Apuleius mentions the iron rings of slaves. Military bronze rings, engraved with numerals.

Silver.—Mostly without stones.

Gold.—Belonging to the equestrian order, and to those who had the *jus annuli aurei.*

Little rings supposed to have belonged to the children of the above.

One with Vestal Virgin feeding the sacred fire, supposed to have been a corporation seal.

Duplex rings, supposed to have been the reward of military valour.

Gold ring, set with uncut diamonds. It should be remembered that it is only since the end of the fifteenth century that diamonds have taken their present place in jewelry, owing to the improved manner of cutting them.

One ring is very curious. The centre ornament, in this case a head, and part of the ring, is cut out of the same stone.

Glass rings.

Key-rings.

Early Christian rings, with inscriptions—LIBERI · VIVAS, VIVIS · IN · DIO.

Gnostic rings, of the Lower Empire.

Byzantine.—Intaglio in bloodstone, head of S. Theodora.

Merovingian.—With filigree, cut slices of red glass and garnets.

Anglo-Saxon.—Chased with Runic ornaments, the celebrated ring of ALHSTAN, bishop of Sherborne, the engraving filled with *niello;* made of twisted wire.

Jewish.—Wedding rings ornamented with filigree, enamel, and Hebrew letters.

Mediæval.—Large rings in base metal and false jewels; arms of ecclesiastics on the sides. Nobody knows exactly the use of these rings; they were perhaps given to messengers as credentials. Golden episcopal rings set with jewels; one, with a sapphire, belonged to Benedict XIV. Copper rings with engraved figures; others with pious or superstitious inscriptions. Engraved heraldic signet rings, the arms in metal or in stone. Rebus signet rings: one has a very sorry sort of pun. W Y (an elm tree.) M O T for Wilmot. Rings with posies. Engaged rings where the hands do not open, and Gimmel rings where they do. Talismanic rings. Italian silver rings with *niello* portraits.

Renaissance—Italian Giardinetti rings with flowers made of precious stones. There are a great many Renaissance rings, some decorated with the most minute work in enamel. Some rings have enamelled death's heads.

Personal Rings—Ring of Rienzi, with his name in *niello*. The Darnley ring. Memorial ring of Charles I. Ring of St. Carlo Borromeo. Ring of Frederic the Great, set with a turquoise, engraved with an £.* W. BURGES.

CHURCH RESTORATIONS IN NORTH NORTHUMBERLAND.

THE Archdeacon of Lindisfarne, the Venerable R. C. Coxe, M.A., in a startling charge delivered to his clergy about two years ago, the substance of which we brought before our readers at the time, described the condition of the seventy ecclesiastical fabrics in his archdeaconry. He showed that there were many interesting ancient churches that were half ruinous; and that there were also modern and well-conditioned churches built in the worst taste; and concluded by expressing a hopeful trust that the diffusive energy of public opinion would lead to the conservation of the ancient remains, and to the adaptation of the modern churches to the requirement of a better ecclesiastical taste. The appeal created considerable controversy. In the case of the fine old church of Rothbury, particularly, which had been enlarged and modernized, but was, nevertheless, fast going to ruin from the imperfect execution of the work, a great deal in the way of refutation was said. But we perceive that the witlessness of allowing the newly-built fabric to perish has been now acknowledged, and a rate just levied for its repair. In other directions much has been done towards the fulfilment of the archdeacon's hope.

Before enumerating the various instances of recent church restorations, we will look at a North Northumbrian church that has not yet met with the saving care it, in common with others, so much needs. At the feet of groups of the Cheviot hills, which rise into the air in masses of dark porphyry tapering into peaks of green and grey, among which storm-clouds appear to hover as large winged eagles over eyries,—on ground every inch of which is historic (for traces of the castle of the proud Umfravilles tell of an overthrown monument of Mediæval chivalry; and the waving ferns are for ever whispering—to Summer, when she bids them unfurl their tender leaves,—to Winter, when he shelters them beneath his mantle of inimitable loveliness,—it was here the Percies fought, and there the Douglas fell), stands Alnham Church. The river Alne trickles away from its source close by; and a few stone farm-houses, and herds' and hinds' cottages, are distributed over the valleys. Open the rickety church-door. The eye is met by a green flash from the damp, mildewed walls, and by streaks of sky seen through the unceiled slates. The western end, with its early Transitional single light, has not been much disturbed; but the rest of the window openings have been modernized and filled with common sashes, which are rotten, and let in wind and rain. The east end has a small square sash, such as is ordinarily provided for a scullery or any inferior office. Three of the worm-eaten, mousy pews are square, with a table fixed in the centre of each: a fourth forms three sides of a quadrangle that is occupied by a stove. Fungi abound, and the pavement is soddened with damp. Ruin is imminent, unless precautions are taken to avert it. This state of things is unredressed by the great holder of the land, on the ground that it is good enough for the pastoral people of the district. Other churches—as at Shilbotel, Long Framlington, Mitford, Felton, and Edlingham—are in similar or nearly similar condition, and many more were so till the numerous restorations lately effected were set on foot.

The parish church on St. Cuthbert's Holy Island, for one, was in a lamentable condition at the date of the archdeacon's charge. Straw was strewed in the pews to keep the congregation dry-footed, just as it is strewed in a stock-yard for the accommodation of cattle. But the building is now in process of a careful restoration—a process that has afforded, by the way, several new archæological facts concerning the famed priory church by its side.

Of the judicious restorations at Warkworth, with the interesting discovery of Saxon remains, we have already given an account: we need, therefore, do no more than remind our readers of them. The fact of the parish setting about the renewal of the nave led to the restoration of the chancel by the Ecclesiastical Commissioners; and these two works, progressing side by side, diffused so earnest a feeling for church decoration, that the wealthy residents of the district, one by one, have filled nearly every window with stained glass.

At Ellingham, where, on the site of an Early English church, a modern building had been placed, which was at once unsightly and unsafe—for the foundations of the tower had shrunk, and the north wall had cracked—a good work has just been accomplished. The vicar, the Rev. C. Thorpe, M.A., has rebuilt the church at his own cost, assisted by his family and friends. The severity of the cruciform outline of the plan is relieved by a porch on the south side of the nave, and a sacristy on the north side of the chancel. From the point of intersection rises a square tower, which has too closely embrasured parapets, and is covered by a slate spirelet surmounted by a vane. Access is gained to the upper part of the tower by a turret springing from the junction of the north transept and the nave. The materials used in this building are varied; and, being well grouped and treated with skill and integrity, produce a pre-eminently devotional aspect. The masonry is of the pink-tinted stone of the locality, with the exception of the decorative portions—the mouldings, jambs, mullions, sills, tracery, &c.,—which are of pure white Bamborough stone. Contrasts of colour are of further avail on the woodwork. The timbers of the roofs are dark: the chancel stalls, the litany desk, and the pulpit, are oak; and the low-backed open sittings are pine wood. The dorsal and super-altar is formed of alabaster, decorated with a jewelled incised cross. The spaces between the rafters of the chancel arch are coloured blue, and the window at the east end filled with stained glass; further enrichment and colour being

* To be continued.

attained in crimson and gold reredos hangings, and in sedilia, credence, and tesselated pavement. A gospel lectern, wrought of iron and decorated with bands of different tints, stands out, another testimony to the charm of a judicious use of colour. As an additional indication of the root that the spirit of conservation is taking in this district, we should add that the only vestige of the Early English edifice—a small lancet window—has been carefully incorporated into the new church. All this is the more noticeable, for being the work of an amateur.

Kirk Newton Church, which was in an identical state with Alnham Church, and reported by the rural dean, the Rev. W. Dodd, as "ruinous, disgraceful, and dangerous," has been properly restored. This church is in a very picturesque neighbourhood, surrounded by hills of the Cheviot range, close to Celtic camps and other remains of our ancient British predecessors; and close, too, to fair, but fatal, Flodden. There is a curious circumstance connected with the history of the restoration which may be well told. A sketching antiquary, having visited the church, made a drawing of a rude piece of sculpture built in the walls, which impressed him with the conviction that the church was Saxon. The impression thus lightly produced developed into a strong opinion; and the fear of disturbing so ancient an edifice prevented any attempt to arrest the decay that was going on for some time. Practical archæologists were, however, consulted, who plainly showed that the whole building was of the rudest modern type, erected on the foundations of a little Norman chapel of a character of which there are several specimens in the archdeaconry. It was the excessive rudeness of the sculpture and masonry that had invested it with its fleeting Saxon reputation. The site of the church is in the route of the Scottish armies coming south, as well as in the great chase district of Cheviot, Yeavering Bell, Homildon, and other famous localities: little wonder that the edifice has been destroyed more than once.

At Berwick-upon-Tweed, the rural dean, the Rev. G. Hans Hamilton, has been very active in seconding the efforts of his archidiaconal superior. Churches, schools, and glebe-houses have alike shared his care. At Lesbury the chancel of the church has been recently newly roofed; and a new eastern window filled with stained glass. To show the earnest feeling abroad, we may mention that the effort to accomplish this work was made by the incumbent just as he was leaving the parish; and, though it was possible his eyes might not behold it again, in reverent regard he rested not till the task was accomplished. From Widdrington we have also word of the good work. At Ulgham, chiefly by the instrumentality of Earls Carlisle and Grey, a new nave with an aisle is so far forward as to admit of the contracts being entered into. The chancel of this church has been formerly invested with a due ecclesiastical character; but the nave remains an unsightly stone box. The new nave and aisle will therefore complete a task that it would have been grievous to have left unfinished.

At Kyloe and Beadnell the churches are modern, and were of the packing-case description deprecated by the archdeacon; but both of these edifices have been transformed; and, by additions and alterations, endowed with an ecclesiastical aspect. The result in both cases shows that a building cannot be in such bad taste as to place it unalterably without the pale of improvement. The churches at Lucker, Ilderton, Rennington, Ingram, Tweedmouth, Wooler, Belford, Lowick, Cornhill, Carham, Hebron, Netherwitton, and Longhorsley, still represent this churchwarden-sash-window-packing-case type. Kyloe Church had no chancel. This important portion of a church has been added, and a belfry lantern is to be added to the tower, which serves as a landmark at sea. A stone pulpit and other internal features have been placed. Beadnell Church has been made appropriate for its service at the cost of Mrs. Taylor, a lady whose mansion faced the utterly blank north wall of the structure. Windows have been opened in this wall, and buttresses added to it; which treatment revealed the pleasing surprise that a glimpse of a handsome memorial stained-glass window, placed on the south side of the church by the same benefactress, could be seen from the windows of her mansion through the new openings. An arcaded lantern has been added to, and improved the squat appearance of, a modern spire. Besides these instances of restorations of ancient churches and improvement of modern ones, North Northumberland has been very recently enriched with entirely new churches. The Duke of Northumberland is building a small church at South Charlton, and has built another with a parsonage at Acklington,—both from the designs of Mr. Deeson, whose drawings of them, in one sheet, may be seen in the gallery of the International Exhibition. The same nobleman has provided temporary church-room for the inhabitants of a rising bathing-place—Alnmouth—by converting a disused granary into a chapel. This seaport possessed a Norman chapel in old times, which was built on an eminence called Church Hill. Curiously, the river has forced a new course for itself in the rear of this hill, which was thus cut off from the land. Winds and waves together have left scarcely a trace of the chapel, although at the time of Grose's tour the walls of the edifice were still standing. Since the discontinuance of divine service there, the inhabitants, for marriages, burials, christenings, and worship, were obliged to resort to Lesbury Church, some two miles distant. The temporary church—granary though it be—is, therefore, a boon to the district.

More of the good work is in contemplation. Eglingham Church, of which the Archdeacon of Lindisfarne is vicar, is to be forthwith remodelled. This is an ancient structure, but has been altered at various times. The Early English tower remains. The chancel has been rebuilt in Stuart times. In the churchwarden-whitewashing era, the whole edifice was well packed with high-backed pews and galleries, the chancel receiving especial favour at the hands of these ruthless purifiers; for here they placed the font as well as plenty of sittings. About a quarter of a century since, a few improvements were made, which, however, did not effect all that a more cultivated taste now renders imperative. Two of the neighbouring landed gentlemen, noted for their archæological acquirements,—Mr. Carr, and Mr. C. Langlands,—have associated themselves with the vicar as churchwardens, for the purpose of carrying out the scheme of restoration, advised by an architect whose attention has been turned to the conservation of ancient remains. Beginning with the chancel, the splays of the eastern windows are to be enriched, the font removed to the western end of the nave, stalls substituted for pews, and a reredos added. In the body of the church the high pews are to be lowered and re-arranged, and the shabby barn-door entrance is to be replaced by a recessed and moulded porch. The modern roof of the tower is to be replaced by a spire, and various minor improvements are to be made.

Only part of the parish of Ponteland is within the archdeaconry of Lindisfarne; but the scope of our subject permits us to mention that the chancel of Ponteland Church, where the ferruginous nature of the stone used in its construction had caused decay,—the iron streaks starting from the stone which crumbled away,—is now in course of restoration. This chancel is a good specimen of fourteenth century work that has been, happily, not much disturbed. The principal alteration ever effected in the chancel is the substitution of a modern roof and flat plaster ceiling—now worn out in its turn—for the ancient one. The restoration includes the reproduction of the ancient masonry and of the decayed mullions and sills, stone for stone; and the erection of a new roof at the original pitch—the mark left by which is visible against the gable over the chancel arch. Oak stalls and altar standards, and an encaustic-tiled pavement from the tileworks at Brenckburn, are also among the new works. The monuments of the ancient Northumbrian families of Ogle and Carr, which occupy the chancel walls, will, meanwhile, be cared for. This chancel is the property of Merton College, as is that of Embleton Church, within the archdeaconry,—which, by the way, being in the same want of conservation, will probably also receive attention at the hands of the authorities.

The fine Perpendicular parish church of St. Mary, Alnwick, is another of the edifices the fortunes of which are about to be influenced by the zeal aroused by the archdeacon. Since our recent account of this golden grey pile—which we would have preserved intact for its quaint mixture of ancient work and last century decorations—for Strawberry Hill and Fonthill Abbey are laid with the dust, as well as the coeval buildings at Alnwick Castle, and posterity should see some remains of the much-abused work of the period, which we should remember Walpole cherished,—word has gone forth that it is to be remodelled. The most rigorous conservatism should be here exercised; for the Perpendicular southern façade, with the turret staircase in the south-east angle leading to the look-out on the chancel-roof, is unique, and should be religiously preserved. The turret stair also leads to a chamber above the chancel; for, at the elevation of the roof, the ancient doorway leading to it, although filled in, remains; and there is also a mullioned window opening in the wall above the large window at the east end of the south aisle of the chancel; and a deep groove in the outer stonework of the turret, facing the roof, marks the (probably timber) boundary of this curiously-placed apartment. The look-out was at a greater height, as there are the first few steps of another round to be seen. There are also four octagonal pillars in the chancel, of great interest. They are pillars between the chancel and its north and south aisles. The richly-foliated capitals all differ in detail, and are surmounted by angels bearing shields—two on each pillar, one facing the north, the other the south. The abacus of the cap of the north-eastern column is ornamented with the insignia of Hotspur—a crescent with a fetlock on either side of it being displayed on the eight faces; the bell by foliage; the neck by a band of intertwined branches; and the angel, looking northwards, bears on its shield a St. Catharine's wheel. The capital of the south-western column is especially artistic. A diagonally-interlaced band of branches twines round the neck, upon which foliage rises to the upper edge of the abacus, the details of which vary in each of the eight compartments. The two faces of the cap of the south-eastern column nearest to the altar are richer than the rest. Of the eight shields borne by angels, one is charged with the Catharine wheel mentioned above; four with crosses, and three are left unsculptured. The shafts are all alike: four round filleted bowtels, with four pointed bowtels likewise filleted, arranged alternately with them, the fillets all being on the octagonal planes. Two of the three bells in the belfry are very ancient, and bear Latin inscriptions, in early characters, immediately below their haunches. The first says,—*Ave Maria gratia plena orate pro aia de John de Va—*; the second—*Adjutorio populo dei in Michael Archangeli veni:* the third bears the date of a century since, and the names of the churchwardens. The inscription on the second bell is too long to be arranged in one band: the latter part of the legend rises gently on to the *cerebrum vel caput*, and forms a second line part of the way round. In the six cusps of one of the windows in the southern façade are pieces of stained glass that are evidently *in situ*. They are circular in form, and bear minute delineations—one of them, in conformity with the use of the grotesque in which the Perpendicular style indulged, representing a long-billed bird playing on a harp: a second has a cock, with flapping wings: a third shows an amber pelican picking her breast. There are other fragments of ancient stained glass in the church, but they are disjointed and scattered: these have escaped destruction.

School-building is being carried on with scarcely less energy. The new schools at Ford, building by the Marchioness of Waterford, are pictures in a village already rich in beauties and historic in associations,—Ford Castle and Ford Church, the latter artistically restored—being in the immediate proximity of Flodden. New schools have been built at Bewick, by Mr. Cresswell, and at Lilburne, by Mrs. Collingwood. Of the schools built by Earl Grey in his model village of Howick, we have already written.

New parsonage-houses have been also built. We have mentioned one at Acklington. Beadnell has built a parsonage: a disused granary at Alnmouth has been turned into a third: the enlargement and reparation of others are in contemplation. We congratulate the archdeacon on the results of his vigorous charge. With a view to the conservation of our ancient remains, we may presently review the condition of the castles, fortlets, bastel-houses, and peel-towers in this remarkable district.

THE DECAY OF NEEDLE-WORKING.

A RECENT and most painful wandering over an eastern district of the metropolis, which we have from time to time visited, shows that the distress amongst the silk weavers is greatly on the increase; and, as we have before been very unwillingly forced to state, the chance of any permanent improvement seems to be, under existing circumstances, hopeless. Bad as has been the state of the needlewomen, also, for several years past; the condition of affairs is now far worse. The price of hand labour in needlework, small as the pittance for a long time past has been, is still constantly on the decrease; and hundreds of honest and industrious women, even while employed, are next to starving. Before long, for manufacturing purposes, this description of female employment will altogether cease; for the sewing machine will, ere many years have passed, render the old needle as rare as

the distaff and spinning-wheel now are. Meantime it is most distressing to witness the suffering which is caused in the transition while changes which will be of future general benefit are being carried out. In no instance do we remember this to have been so painfully evident as in the case of the silk weavers and the needlewomen of the metropolis. Pent up in unhealthy quarters of this great city; having for years past struggled for a bare and miserable subsistence; not well informed as regards the laws of social politics; and for the most part unable or unwilling to look for change of occupation; their immediate prospect is indeed dismal and gloomy; and it becomes a matter of deep anxiety to all who have thought carefully on the subject, to endeavour, by some effectual means, to lessen the present and still coming privation.

Plain and simple as the fact is that slow and antiquated methods *must* give way to those of a more rapid and economical description; the principle is so little understood by large masses of the people, that it is necessary, from time to time, to advert to the real condition of affairs. For instance, the Spitalfields weavers believe that the imposition of a tax on the importation of foreign silk would restore their trade to a state of prosperity. It seems, however, almost needless to show the injustice and the bad policy of such an arrangement to the millions who form the British population.

Year after year various branches of industry fail, owing to the changes of fashion and other causes. In the days of the Prince Regent the making of bright brass gilt buttons gave employment to some thousands of skilful artificers: then mould buttons covered with cloth became the rage; and soon all those workers in metal were rendered idle. In the extremity of their need, deputations from the men and women engaged in this manufacture waited upon the Regent and other high and fashionable personages, soliciting the revival of the use of brass buttons; and at one or two levées, and a few important evening gatherings, the buttons were shown in their wonted brilliancy. But vain was this benevolent attempt to stop the tide of change in taste and fashion; and the more brilliant gave way entirely to the more sombre decoration. In like manner the Court and female nobility have been appealed to in behalf of Spitalfields silk; but, although exertions have been made, it is impossible to force a material into sale in competition with an equally good and perhaps a superior article at a lower price. Many similar instances might be given. We will, however, only further remark that, of late, the beautiful embroidery work which was so much used for the adornment of ladies' dresses has not been in much demand; and in consequence a very large number of women have been thrown out of employment. Her Majesty, with her usual consideration and kindly feeling, in answer to an appeal from those engaged in this beautiful branch of manufacture, selected articles for herself and the Royal Family; and we hope that the worthy example of the Queen and other ladies of rank may be the means of restoring this trade, and bringing back comfort to many homes. The best directed exertions—the most benevolent ideas—however, are often of no avail against the stern ruling of fashion.

As regards the needlewomen, and, in fact, a great number of men, who are employed in several departments of tailoring, there might be much done in the way of relief. At present, in consequence of the method of giving large quantities of work to contractors; who, in the way to which we have before referred, sublet it to various other persons with less capital; there can be no doubt that, in many instances, one half, if not more, of the price of the labour falls into the hands of the "middle-men" and the middle-women, who do none of the work. To put a stop to this abuse, several attempts have been made: establishments have been formed for the purpose of supplying the needle-workers with employment directly from those who require this description of labour; and although these efforts have not been supported to the extent which might be expected, they have already done, and still are doing, a considerable amount of good. Attention has, however, been drawn by Miss Barber and some other ladies to an important aspect of this description of work. Of late years, in several departments of the Government works, a practice has been introduced, on a very large scale, of manufacturing several kinds of Government stores: we will not enter into any argument, as to whether this be advisable or not: suffice it for our present purpose to note that such is the fact; and that in the extensive building which has been recently erected at Pimlico, the making of soldiers' clothing, and certain accoutrements, is to be carried forward on a large scale: it is in connexion with this work that it is suggested employment of a payable description might be given to a considerable number of both women and men: what is asked, in connexion with this movement, is, that, as far as possible, the labour of individuals should be paid for at the same rate as would be allowed to contractors, who would dispose of the work in the manner above mentioned. The Government would thus ensure to the poor struggling workers a fair market price. This plan, if it afford only partial relief, is worthy of the most careful consideration; but, taking this subject in its various bearings; and especially considering the rapid advance of the use of machinery; it seems to be highly important, in all matters to which the hand and needle have for so long been required, that those who have young families—particularly the girls—should have the fact forced and impressed upon their attention and their memory, that needlework can no longer be depended upon as a means of obtaining a living; and that it is necessary to teach their children other means of industrial employment. We would not dream, in these days of Rowland Hill's Post-office arrangements, and of all the appliances of railways and electric telegraphs, of employing "running-footmen" for the purpose of carrying letters or messages; or the old-fashioned bellman instead of the advertising columns of the newspapers and the handbills and broad sheets of the streets and walls; or the Gravesend wherry instead of the large and swift steam-packets;—and just so, before long, the use of the hand-needle will be as little called into requisition as those antiquated appliances just mentioned. It would therefore be wise in our working-class heads of families were they to prepare the way for a future livelihood for their children, and more particularly their girls, quite independently of the needle; although, as regards its family use, we are disposed to think, from a good deal of observation amongst the rising generation of that class of the people, that the still indispensable little implement is too much neglected even now.

LEEK MECHANICS' INSTITUTION.

THE new Mechanics' Institution, just completed, has been opened and celebrated by a trip to Alton Towers, the grounds of which were thrown open by the Earl of Shrewsbury, for the benefit of the funds of the institution.

The arrangements of the building comprise: On the ground floor, library, committee-rooms, entrance-lobby, and hall. From the latter ascends a polished stone staircase to the reading-room, which, with a commodious landing, occupies the whole of the first floor. The second floor consists of class-rooms and a penny-bank room. The entrance-lobby, hall, and passages to library, and committee-rooms, are laid with Minton's tiles.

Each division of the building is ventilated by a supply of fresh air round the walls near the floor, the extent of which can be regulated; outlet flues for vitiated air being formed in the chimney-breasts. In winter the air is partially warmed by passing through chambers constructed in connexion with the fire-places. The building is of Italian character, and decorated, to a limited extent, by carving the prominent features of the stone-work, and by bricks and tiles in colours. The necessary conveniences of the institution are provided in the basement; the remainder of which is let off as a warehouse. The works have been carried out from the designs and under the superintendence of Mr. Sugden, of Leek, architect.

THE STOPPAGE OF METROPOLITAN THOROUGHFARES.

THE accident to the Fleet Sewer and Metropolitan Railway has caused the closing of the thoroughfare from the bottom of Holborn-hill northward. The constant closing of various parts of London, for two or three years past, has been one of the evils attending the construction of an underground railway throughout a populous district.

While the roadways have been blocked, the traffic has almost ceased: the inconvenience to the inhabitants dwelling near has been great; and, while the shopkeepers are obliged to pay rent and taxes, business is suspended. We fear that, what with the damage done to houses, the difficulties with the sewers in several parts, and other unexpected accidents, the expenses of this work will prove very large. Taking all this into consideration, it is worthy of inquiry if in large and populous towns it will be wise to construct underground railways in leading thoroughfares.

It is not only of a railway, however, that the public have reason to complain. What with the drainage, alterations in the gas and water pipes, electric wires repairs, &c., the earth of the London streets is never still. In consequence of the important works which are going on, and the present imperfect arrangement of these things, the difficulty is not to be avoided; but sufficient care is not taken to remove with expedition the mounds of rubbish which accumulate. The footpaths, which at only a little trouble could be kept clean, are neglected; and in many instances the works are kept in hand much longer than is necessary. There is a need of restrictive measures in connexion with such proceedings; and much of the evil complained of might even be removed by the parish authorities and the police diligently doing their duty.

If a shopkeeper neglect to keep his footpath clean, the police or parish street inspector have power to insist upon it being done; and there is no reason why the same law should not be put in force with those who are engaged in troubling the earth.

FROM PARIS.

ANOTHER great thoroughfare is projected; and for which an *enquête* has been opened in the thirteenth and fourteenth arrondissements, consisting of, firstly, a wide street leading from the Pont Napoléon (the *pont-mixte*, or road and rail bridge of Bercy) to a place called the Quatre-chemins, on the Orleans high-road; secondly, of a junction roadway abutting on the Boulevart de la Santé, near the ancient barrière. These lines of communication will establish a connexion between the two arrondissements above mentioned and the eleventh and twelfth; but this will not be accomplished without serious difficulties being overcome.

The Boulevart Magenta is to be continued to the east of the Butte Montmartre, and two inquiries have been set on foot at the eighteenth Mairie. The result has been that new surveys are to be made, and the line studied afresh.

The Academy of Fine Arts in Paris has lost a valuable member, Mr. Petitot, of the section of sculpture. His name is attached to numerous works in Paris and Versailles. Mr. Petitot was the sculptor of the four figures in the Place du Carrousel. His father was also a statuary of merit.

There is no token of peace between nations more significant than the spontaneous rendering from one to the other of the trophies of war and the memorials of combats of which, perhaps, they are ashamed when they have shaken hands. An example of this generous feeling (which, by the bye, has made us altogether forget Waterloo and its anniversary, now no longer celebrated) has occurred lately on the Continent. The Museum of Artillery in Paris has just received twelve old pieces, of French origin, presented to the Emperor by the Sultan. These, consisting of cannon, culverins, and one mortar, were in the possession of the Turks since 1669. The latter, weighing 3,325 kilog. (7,331·6 lb.), was constructed in the fifteenth century: it bears on it the shield of Pierre d'Aubusson, grand master of the "Hospitaliers," and in a circular cordon an inscription.

THE THAMES EMBANKMENT BILL.

THIS Bill has passed, in the Commons, through committee of the whole House, who have expunged the obnoxious clause restricting the public roadway to a footpath between Whitehall Stairs and Westminster Bridge. This the House quite rightly persisted in doing, although the Government desired merely to amend the clause so far as to limit the absurd arrangement till Parliament should otherwise provide. Parliament preferred at once otherwise to provide.

On the motion for going into committee on the Bill, one of those wordy discussions took place which Lord Palmerston happily characterized as being intended by the supporters of the clause in question "to draw away the attention of the House from the real question, and to involve it, like one of Homer's heroes, in a cloud for the purpose of defending their darling object."

On this occasion Mr. Doulton, of Lambeth, who appears to have already proved himself to be an active and useful member, gave the following summary of the principal evidence for and against the roadway to Westminster Bridge:—

"Very few, if any, of the witnesses who spoke against the plan proposed by the Royal Commission could be regarded as impartial. Evidence in favour of stopping at

Scotland-yard was given by the architect of Montague-house, who stated that the Embankment would place that edifice in a ditch; by the Duke of Buccleuch, who was candid enough to say that, even if it could be proved that the public interests demanded that the road should be carried as far as Westminster-bridge, he would still protect his private rights; by the Hon. Charles Gore, who spoke without reference to the public interests, but solely with reference to the interests of the Crown as a landowner; by Mr. Page, who propounded a plan of his own in 1844, and whose main objection to the plan of the commission was that it would interfere with certain lines of tramway which he had laid down on Westminster Bridge, and which, in the opinion of many persons, were abominable nuisances; and by Mr. Pennethorne himself, the author of the rival plan, whose evidence could not, with any show of reason, be called impartial. There was also the evidence of the right hon. member for Stroud, who declared that if it could be shown that the public interests demanded the extension of the roadway to Westminster Bridge, his opposition would be at once withdrawn; but, upon the whole, the only evidence which could be considered impartial, was that of the hon. member for Bath, whose main objection to the scheme proposed by the commission was, that it did not provide a proper communication between Charing-cross and the Embankment. The witnesses examined on the other side were not employed architects or residents in the locality, but such men as Hawksley, Bidder, Bazalgette, and Cubitt; and their evidence was to the effect that property would be benefited rather than injured by the construction of the roadway. No more competent or impartial witness could be found than Sir Richard Mayne, who had no plan to propose, but whose only wish was to see that the greatest amount of accommodation was afforded to the public. Sir Richard stated before the committee that if the roadway stopped short at Scotland-yard, it would give no adequate relief to the difficulties with which the police had to contend."

We wish the member for Bath's objection to the scheme of the Royal Commission had only related to the Charing-cross question: as it was,

"Mr. Tite said the hon member for Lambeth did him strict justice in saying that his opinion was an unbiased one. He did not know the Duke of Buccleuch, nor did he believe that he had ever seen him. The real question was a very simple one. The line of the Embankment was determined by the conformation of the Thames, as the plans for that House had also been determined. The question upon which his opinion had been asked was whether, if the new street were to be turned off from Whitehall Stairs and Whitehall-yard into Parliament-street, it would be more for the public convenience; and his answer was that it would be better to do so than to have all the traffic carried along the Thames to Westminster Bridge. Moreover, it was arranged that the Embankment of the Thames should be 4 feet above high-water mark; so that they would thus have an incline of 1 in 30. [An hon. Member—'1 in 80.'] He took it, at all events, that there would be a steep incline. ('No.') Any hon. gentleman who went upon Westminster Bridge, and looked at the difference between the level of the bridge and that of the wharfs, would see that there must be a considerable incline, and one such as no heavy traffic was likely to travel upon. If he could conceive the possibility of continuing the road along from the Embankment in front of these houses he might take a different view of this question; but he could not conceive the possibility of that, because the terrace went as far into the river as its conformation would admit of, and was in a line with the abutments of the bridge itself. He did not believe they could by any mechanical contrivance carry a road in front of the houses in any manner that would not be a disgrace to the nation. He should like to see a road two miles in extent made along the bank of the river, which would certainly be a magnificent promenade, but he did not know how it could be done. Believing sincerely that Mr. Pennethorne's plan would give a more convenient approach than one across the avenue of Westminster Bridge, he had honestly expressed that opinion before, and he adhered to it now. He could not help thinking that the select committee whose report was now under discussion had come to a right conclusion when they adopted a footway. A footway of 80 feet wide would, in fact, be a road, and there would be no difficulty in carrying that into effect.

Mr. Locke said the hon. member for Bath had declared that he had always been in favour of carrying a road throughout the length of the Embankment. Now, the length of the proposed Embankment had all through been from Blackfriars Bridge to Westminster; and on that point the committee appeared from the report to have been all agreed. The only question was this—whether from Whitehall up to Westminster Bridge they were merely to have a footway, or to have the carriage road continued all the way to Westminster Bridge. The objections to such a continuous carriage-road were most futile. As to the approach from the Embankment to the bridge being a steep one, the hon. member for Bath seemed to think it made no difference whether the incline were 1 in 30 or 1 in 80. That was rather remarkable as coming from one who had been professionally employed in carrying out some of the greatest works which adorned the metropolis. There was an incline of 1 in 40 in the approach to London Bridge on the Southwark side, along which carriages passed with the greatest ease, and which was the greatest thoroughfare in all London. The hon. member for Bath had ridden off on another question, viz., the Embankment in front of the Houses of Parliament. Certainly the committee entirely scouted such a proposal. He had heard no reasons to satisfy him why the carriage roadway could not be carried up to Westminster Bridge.

Mr. Cowper said, in reference to the Duke of Buccleuch's resistance to the roadway, that he thought that under such circumstances he should have submitted to the little inconvenience of a public road near his house rather than have insisted on his rights and endeavoured to stop so great—so vast a public convenience as the roadway in question would be. A right hon. gentleman had very amusingly described the difficulties which every one coming to that House encountered at the corner of Bridge-street and Parliament-street; but he would ask, what would the alternative line, as it was called, do to diminish the excessive traffic at that corner? A large proportion of the traffic passed over Westminster Bridge,—on some days, probably, at least 2,000 carriages in the course of the day. Most of those vehicles would, if the original plan in the Bill were adopted, pass from Westminster Bridge to the Embankment; but if the plan recommended by the right hon. gentleman was adopted, they would all be obliged to pass into Parliament-street and block up that already over-crowded street. As to widening Parliament-street, that would be a useful portion of any plan of improvement. He could assure the House that no engineering difficulty whatever existed to the continuation of the Embankment along the front of the Houses of Parliament. He knew that the high authority of the hon. member for Bath (Mr. Tite) had been quoted against it; but he relied upon a higher authority than that of the hon. member for Bath—the authority of common sense. He had also been assured by very distinguished engineers that it was perfectly idle to imagine there was any engineering difficulty in the construction of a roadway in front of the Houses of Parliament. It was not proposed to have a solid embankment at this point, but a roadway might be carried along on iron columns, or it would be very easy to support it on stone piers in the water. It would be obviously a great improvement to unite the Embankment now proposed with that at Millbank, and thus get a continuous Embankment of three miles in length along the north bank of the river. This, however, would be entirely prevented if the Embankment were wholly stopped at Westminster Bridge."

Mr. Tite has certainly disappointed us in this matter.

Lord Palmerston said, the only argument he had heard against continuing the roadway to Westminster was very absurd indeed. It is said that, in order to disencumber the thoroughfares of London from the pressure of the crowd, you are to shut up an additional avenue, and to direct the public stream into the narrow gauge of Parliament-street. And then it is said that you may get rid of another difficulty in that quarter by spending 300,000*l.* in pulling down one side of Parliament-street. The pulling down of the whole would be more expensive, for you would have to buy all the houses between Parliament-street and the site of the new public offices. But if you were to save by so doing the expense of the Embankment, that plan might be very good. But no; the Embankment is to be made, after all. On another point his lordship remarked,—

"It is said, Can you do anything so absurd as to make a thoroughfare that will come at right angles to the foot of the bridge? Well, is there any town which any hon. gentleman is acquainted with in which that has not been done? Dublin has been mentioned. Every bridge which crosses the river must be at right angles with the quays along its banks. Has any gentleman who opposes this continuous roadway been to Paris? There all the streets leading to the bridges are at right angles with the quays. If I mistake not, the same thing is seen at Florence. I forget exactly whether it is not so also at Berlin and Dresden; but I rather think it is. But one really need not go so far for examples. Has any gentleman happened to visit the cattle-show? Has he gone by Chelsea Bridge? Because, if he has, unless my memory greatly deceives me, he had to proceed along an embankment, and then turn at a right angle to cross the bridge. But it is really childish to say that you are not to have a roadway up to Westminster Bridge, because, when you get to the foot of the bridge, however you may round the corner, you must make a sharp turn to cross the river."

His lordship might have added that, in the making of this very embankment, all the bridges will cross it at right angles.

In a subsequent debate, Sir Joseph Paxton said,—

"He was very sorry that it was not possible to carry the high-level embankment which had been suggested; but he was astonished that the hon baronet (Sir J. Shelley) and his hon. friend (Mr. Tite), and those who before never raised an objection about delivering the traffic at right angles on to the bridges, should now have such great objections to the present proposal. All the principal plans submitted to the committee of 1860 contemplated the crossing of all the bridges by the Embankment at right angles; and that was a so the case with the bridges and thoroughfares of every capital in Europe. He believed that, if Mr. Pennethorne's scheme were carried out, the Embankment would be the laughing-stock of Europe. He could hardly have conceived that Mr. Pennethorne could have proposed to bring a road at so objectionable an angle into Parliament-street. What ought to be done was this:—to take down the block of houses in King-street, as far as the new Government Offices; to widen King-street; and then, by means of the Embankment, and a road from the Horse-guards, which would convey the traffic from Victoria-street and relieve Parliament-street, they would improve the crossing at the corner of Bridge-street, which was now intolerable."

In conclusion, all we need say is, that it is to be hoped the Lords will not attempt to upset the decision of the Commons on the question of carrying out the Embankment to Westminster Bridge; and that, if there be any force in the argument as to the traffic, let an *additional* thoroughfare be opened through Whitehall;—even were it requisite, for the public convenience, to run the line right through Montague House itself, and through Mr. Horsman's premises also.

PROPOSED BLACKFRIARS BRIDGE.

THE Bridge House Estates Committee, to whom the question had been twice referred for consideration, eventually determined to recommend that the bridge to be erected by the Corporation should be one of five arches springing from an abutment in a line with the present wharf-lines on each side of the river. Having regard to the length of time that would necessarily be occupied in the construction of a stone bridge, as compared with one of iron arches; and to the very great difference between the cost of a stone bridge and that of an iron one; the committee were of opinion that it would not be desirable to adopt a design for a stone bridge. Of sixteen designs submitted to them by engineers of eminence they selected five, each of five arches, as best calculated to meet the requirements of the public,—namely, stating them alphabetically, as the committee had done,—the design of Mr. James Brunlees for a bridge of five elliptical arches, at the estimated cost of 230,573*l.*, including the cost of a temporary bridge; the design of Mr. Joseph Cubitt for a bridge of five segmental arches, at the estimated cost of 265,000*l.*; the design of Mr. John Fowler for a bridge of five elliptical arches, at the estimated cost of 280,000*l.*; the design of Mr. Robert Mylne for a bridge of five segmental arches, at the estimated cost of 308,000*l.*, exclusive of a temporary bridge and the reconstruction of the outlet of the Fleet sewer; the design of Mr. Thomas Page for a bridge of five segmental arches, at the estimated cost of 260,000*l.*, including allowance for contingencies and for removing the present bridge.

At the last meeting of the Common Council the committee presented these designs, with an accompanying report, for them to choose one for adoption. Pictorial representations of the selected designs were exhibited in the council-chamber. Mr. Brunlees' design had a centre arch of 209 feet 4 inches span, side arches of 196 feet 6 inches, and abutment arches of 163 feet 4 inches. The headway of the centre arch above Trinity high-water mark was 26 feet, the distance from abutment to abutment 995 feet, and the available waterway for navigation 929 feet. The average gradient of the bridge was 1 in 50, with 70 feet breadth of way. In Mr. Cubitt's design the span of the centre arch was 189 feet, of the side arches 176 feet, and of the abutment arches 164 feet. The headway of the centre arch was 27 feet above high-water, the distance from abutment to abutment 963 feet, and the available waterway 869 feet. The breadth was 75 feet, and the steepest inclination of the bridge was 1 in 40. Mr. Fowler's centre arch was 184 feet in span, two side arches 173 feet each, and two side arches of 162 feet. The headway of the centre arch above high-water mark was 22 feet, the distance from abutment to abutment 925 feet, and the available waterway 854 feet. The gradient of the bridge was 1 in 50, and the breadth 80 feet. The centre arch of Mr. Mylne was 216 feet span, the side arches 199 feet, and the two land arches 156 feet, the headway of the centre arch being 26 feet, the distance between the abutments 987 feet, and the available waterway 926 feet. The span of Mr. Page's centre arch was 200 feet, of the adjoining arches 188 feet, and of the abutment arches 164 feet. The headway of the centre arch above high-water was 23 feet, the distance between the abutments being 994 feet, and the available waterway 903 feet. The breadth of the bridge was not less than 75 feet, and the gradient was 1 in 50 on the Middlesex and 1 in 40 on the Surrey side. Mr. Wellington Vallance, chairman of the Bridge-house Committee, in moving the adoption of their report, said, with regard to the question of cost, he was enabled to state, on the authority of the chamberlain, that the council need have no hesitation in adopting any design for a bridge, the estimated cost of which was not more than 300,000*l.*, and that they might even go further, to the extent of an additional sum of 50,000*l.* or 70,000*l.*

Each of the designs was then submitted alphabetically to a show of hands, until the number was reduced to two. The result was first to eliminate that of Mr. Mylne; then that of Mr. Fowler; and, thirdly, that of Mr. Page; leaving those of Mr. Brunlees and Mr. Cubitt from which to choose. Eventually the court, on a show of hands, adopted that of Mr. Cubitt by a large majority.

On the motion of Mr. John Young, jun., it was referred back to the Bridge-house Committee to take all the necessary steps, with the least possible delay, for erecting the proposed bridge after Mr. Cubitt's design.

PREMIUMS AWARDED BY THE INSTITUTION OF CIVIL ENGINEERS.

THE Council of the Institution of Civil Engineers have awarded the following premiums for papers read during the session 1861-62:—

1. A Telford medal, the Manby premium, in books, and a Stephenson prize of twenty-five guineas, to C. A. Hartley, for his "Description of the Delta, and of the Works recently executed at the Sulina Mouth, of the Danube."

2. A Telford medal and a Miller prize of fifteen guineas to J. H. Muller (of the Hague), for his paper "On Reclaiming Land from Seas and Estuaries."

3. A Telford medal and a Miller prize of fifteen guineas to J. Paton, for his paper "On the Sea Dykes of Schleswig and Holstein, and on Reclaiming Land from the Sea."

4. A Telford medal to James Abernethy, for his "Description of the Works at the Ports of Swansea, Silloth, and Blyth."

5. A Telford medal to J. Bailey Denton, for his paper "On the Discharge from Underdrainage."

6. A Watt medal to Joseph D'Aguilar Samuda, for his paper "On the Form and Materials for Iron-plated Ships."

7. A Council premium of books to James Brunlees, for his paper "On Railway Accidents,—their causes and means of prevention."

8. A Council premium of books to Captain Douglas Galton, R.E., for his paper "On Railway Accidents, showing the bearing which existing legislation has upon them."

9. A Council premium of books to H. C. Forde, for his paper "On the Malta and Alexandria Submarine Cable."

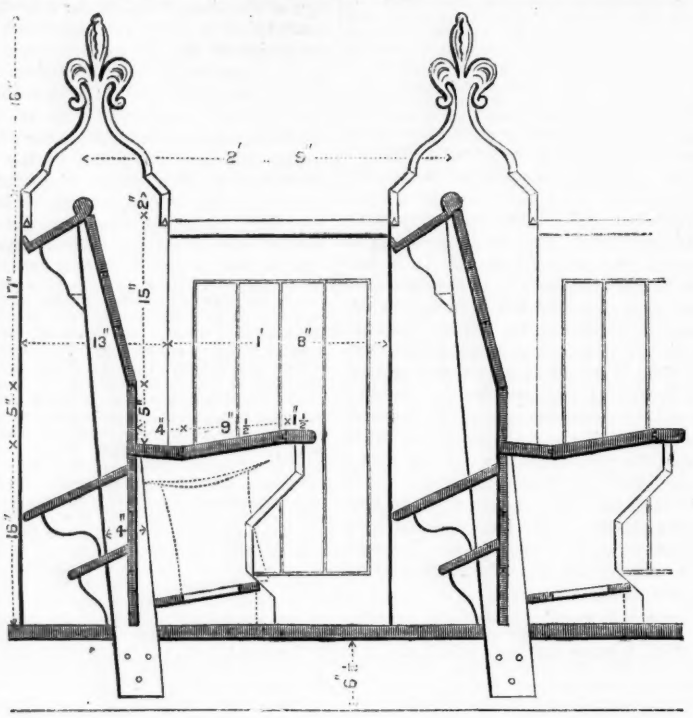
10. A Council premium of books to C. W. Siemens, F.R.S., for his paper "On the Electrical Tests employed during the construction of the Malta and Alexandria Telegraph, and on Insulating and Protecting Submarine Cables."

11. A Council premium of books to J. Atkinson Longridge, for his paper "On the Hooghly and the Mutla."

12. A Council premium of books to James Oldham, for his paper "On Reclaiming Land from Seas and Estuaries."

ON THE BEST FORM AND DIMENSIONS OF A SEAT.

A CORRESPONDENT writes as follows:—When a workman is about to make a saddle, he does not begin with a T-square and straight-edge, and make every part of it with right angles; but proceeds to model a saddle-tree, with the underside fitted to the horse's back, and the upper surface formed so as to extend as much as possible the part on which the rider sits. The same principle applies to a seat. The form of the human frame should be considered, and the seat so modelled as to extend the resting-surface, and be adapted to the average size of man. Keeping this in view, the best dimensions for a comfortable church pew would appear to be,—



Width of pew from centre to centre	2ft.	9in.
Height of back, total	3	2

Divided thus,—

From floor to upper surface of seat at back	1ft.	4in.
From thence, perpendicular.....	0	5
From thence, sloping about 1 inch in 4 inches..	1	5
	3ft.	2in.

Seat, total breadth, 15 inches, divided thus,—

From back, forwards, decline ¼-inch in	0ft.	4 in.
From thence, rise 1½ inch in	0	9½
From thence, to the front, level	0	1½
	1ft.	3 in.

Making the height of the seat at the front 17 inches.

There is abundant room for men's hats under the seat.

If the seats are to have cushions, they should be half an inch lower, and that half inch added to the perpendicular part of the back, making it 5½ inches.

This perpendicular part of the back is of essential importance to the comfort of the seat, as it gives support to the bony frame of the loins, while the slope above it leaves room for the motion of the heart and lungs, and affords rest to the shoulders.

The form of the seat also gives support to the limbs where they grow thinner, and in every way extends the surface on which the body rests.

This general form and these dimensions have been worked out, after much comparison and study, by Mr. William Brown, of Glasgow. The general principles, says the writer, may be also employed in the improved construction of benches, couches, and chairs.

THE DEVELOPMENT OF HEAT, SOLAR AND TERRESTRIAL.

PROFESSOR TYNDALL delivered a highly interesting lecture "On Force," at the Royal Institution, on 6th June; which, we think, has been less quoted, and is less known, than it deserves to be.

In the course of this lecture the development of heat was treated of; and it is to the wonderful conclusions to which men of science have come on this subject that we would more especially direct the attention of our readers; although the mere abstract law of the conversion of mechanical force into heat; and, *vice versâ*, of heat into mechanical force; has long been known and treated of. Having first of all considered this law in various of its bearings, the professor thus proceeded:—

Whence is the sun's heat derived, and by what means is it maintained? No combustion, no chemical affinity with which we are acquainted, would be competent to produce the temperature of the sun's surface. Besides, were the sun a burning body merely, its light and heat would assuredly speedily come to an end. We have already regarded the case of a body falling from a great distance towards the earth; and found that the heat generated by its collision would be twice that produced by the combustion of an equal weight of coal. How much greater must be the heat developed by a body falling towards the sun! The maximum velocity with which a body can strike the earth is about seven miles in a second: the maximum velocity with which it can strike the sun is 390 miles in a second. And, as the heat developed by the collision is proportional to the square of the velocity destroyed; an asteroid falling into the sun with the above velocity would generate about 10,000 times the quantity of heat generated by the combustion of an asteroid of coal of the same weight. Have we any reason to believe that such bodies exist in space; and that they may be raining down upon the sun? The meteorites flashing through the air are small planetary bodies, drawn by the earth's attraction, and entering our atmosphere with planetary velocity. By friction against the air they are raised to incandescence and caused to emit light and heat. At certain seasons of the year they shower down upon us in great numbers. In Boston, 240,000 of them were observed in nine hours. There is every reason to believe that space is stocked with smaller masses, which obey the same laws as the large ones. That lenticular envelope which surrounds the sun, and which is known to astronomers as the Zodiacal light, is probably a crowd of meteors; and, moving as they do in a resisting medium, they must continually approach the sun. Falling into it, they would be competent to produce the heat observed; and this would constitute a source from which the annual loss of heat would be made good. The quantity of matter competent to produce the necessary effect would, during the range of history, produce no appreciable augmentation in the sun's magnitude. The augmentation of the sun's attractive force would be more appreciable.

Our earth moves in its orbit with a velocity of 68,040 miles an hour. Were this motion stopped, an amount of heat would be developed sufficient to raise the temperature of a globe of lead of the same size as the earth 384,000 degrees of the centrigrade thermometer. It has been prophesied that "the elements shall melt with fervent heat." The earth's own motion embraces the conditions of fulfilment: stop that motion, and the greater part, if not the whole, of her mass would be reduced to vapour. If the earth fell into the sun, the amount of heat developed by the shock would be equal to that developed by the combustion of 6,435 earths of solid coal.

To whom, then, are we indebted for the striking generalizations of this evening's discourse? All that I have laid before you is the work of a man of whom you have scarcely ever heard,—a German physician, named Mayer. Led by his own beautiful researches, and quite independent of Mayer, Mr. Joule published his first paper on the "Mechanical Value of Heat," in 1843; but in 1842 Mayer had actually calculated the mechanical equivalent of heat from data which a man of rare originality alone could turn to account. You will desire to know what has become of this man. His mind gave way: he became insane; and he was sent to a lunatic asylum. He recovered, however; and, I believe, is at this moment a cultivator of vineyards in Heilbronn.

PROPOSED ARCHITECTURAL ALLIANCE.

AT the meeting held on the 2nd instant, to discuss this proposition, as mentioned in our last, there were present as delegates;—From the London Architectural Association, Messrs. Blashill, T. R. Smith, and W. W. Bunker; Institute of Scotland, Mr. Lessels; Institute of Ireland, Mr. J. J. Lyons (unofficial); Birmingham Association, Messrs. J. H. Chamberlain and A. B. Phipson; Bristol Association, Messrs. H. Lloyd and E. W. Godwin; Liverpool Association, Messrs. Weightman and S. M. Hay; Glasgow Association, Mr. Kennedy; Manchester Association, Messrs. Lawrence Booth and A. Darbyshire; Northern Association, Messrs. Thomas Austin and J. P. Pritchett. A set of rules has been drawn up and printed; but, as it would seem to be tentative only, we delay printing it. We do not quite see our way in the matter.

LODGINGS FOR EXHIBITION VISITORS.

THE difficulty of providing rooms for the vast number of visitors from abroad, and from the provinces, is far greater than in 1851; and it is probable that, as the season advances, the number of persons coming to London from the country districts will increase still farther; but even at present, great as is the extent of the hotel accommodation in the central parts of the metropolis, all these establishments, and the lodging and boarding houses, are crowded to overflowing; and grievous are the complaints of indifferent accommodation and enormous charges.

The inconvenience is, in a great measure, caused by the desire of so many persons to find lodging near the central places of business and the leading thoroughfares. There are, however, elsewhere, plenty of comfortable bed and other rooms which might be had at a very moderate cost. There are hundreds of householders in Lambeth, Islington, and other parts, who would gladly let their apartments. But there is a want of some systematic plan. If registry-offices were established in or near the great railway stations, steam-packet wharfs, &c., where lists of lodgings could be had, with particulars of the extent of the accommodation, price, &c., it would be a decided advantage. There should also be means of making inquiry respecting the character of the persons who offer their lodgings to be let; and whether the rooms, beds, &c., are such as can be safely recommended.

THE CHAPEL OF EXETER COLLEGE, OXFORD.

OF the exterior of this building, one of the best of Mr. Scott's works, we have already given a view, with some descriptive particulars.* To this we now add a view of the interior, looking east. It is an apsidal chapel, about 90 feet by 30 feet internally, vaulted; stone of two colours being used for that purpose. The chapel consists of five bays; and the apse has five sides. Shafts of coloured marble are somewhat extensively used. The general works were executed by Mr. Symm, of Oxford: the stone-carving was done by Mr. Phillip, of London.

The chapel was consecrated on the 18th of October, 1859, by the Bishop of Oxford.

* See vol. xvii. (1859), p. 440; also p. 401, same vol.; and elsewhere in our pages.

INTERIOR OF THE CHAPEL, EXETER COLLEGE, OXFORD.—MR. G. G. SCOTT, R.A., ARCHITECT.

COMPETITIONS.

Birmingham Free Libraries.—A correspondent, speaking of the designs which have been submitted and quietly adjudicated on, gives the following quotations, and asks how they are to be reconciled:—"From the Instructions to Architects:—The cost of the whole erection, exclusive of the architect's commission, fixtures, and fittings, *must not exceed* 10,500*l*. The buildings *must be* delivered up complete in *every respect*, as *no extras* will be permitted after *the adoption of the plans:* to ensure this the committee reserve to themselves the right to retain the *whole* of the commission until the *completion of the work.*" "From the *Daily Post:*—Mr. Osborne asks for power to 'obtain tenders for the erection of the work, *according* to the designs of Mr. Martin, at a cost not exceeding 12,500*l.*'"

Leamington Church.—The design of Mr. John Cundall, architect, of Leamington and London, has been selected, by the committee, for the completion of the above church, at an estimated outlay of 10,000*l.*

PROPOSED DUBLIN EXHIBITION PALACE.

THE obscurity of the advertisement offering premiums for designs, as to the employment of the successful competitor, and the fact that the company advertise an architect of their own, have led to a written request to the secretary for a more explicit statement on this head. The secretary replies that he is unable to render any additional information; and our advice is that architects should decline to submit designs until the matter be made clear. The time for sending designs has been extended to September 1st.

NEW POORHOUSE FOR LEITH.

THE North Leith Parochial Board having feued a piece of ground, measuring about three acres, in North Junction-street, whereon to build a poorhouse and offices for the Board and their servants, the buildings were commenced in July, 1860, according to plans prepared by the late Mr. Peter Hamilton, of Edinburgh, architect, and they are now completed. The poorhouse is situate in the centre of the ground, with the front to the south, according to the *Scotsman*. The principal portion of it is two stories high, 140 feet long, and 45 feet broad; and the height from the floor to the ceiling on the ground-floor is 12 feet, and in the upper flat 13 feet. In this part of the building there are apartments for the governor, three day-rooms, a sick-room, two work-rooms, dormitories for 130 people (allowing 500 cubic feet of clear space for every inmate), four lavatories supplied with hot and cold water, and store-rooms. Betwixt and connecting the two principal divisions of the house, there is a large hall, 40 feet by 28 feet, seated for 150, which serves for the twofold purpose of a dining-room and chapel. Several of the grates in the rooms are constructed with boilers, in such a manner that the fires used for heating the rooms warm the water for the lavatories. The whole arrangements for ventilation have been completed by Mr. William Cunning, ironmonger, Queen-street, Edinburgh, after a plan of which he is the inventor. The late Mr. James Hume, builder, Leith, was the contractor for the mason's work; Mr. Andrew Cunningham, wright, Leith, for the joiner's work; Mr. Peter Innes, plasterer, Edinburgh, for the plasterer's work; Mr. Fortune, slater, Leith, for the slater's work; and Mr. Law, plumber, Edinburgh, for the plumber's work. The cost of the house and furnishings amounts to about 7,000*l.*

ECCLESIOLOGICAL REPORT.

WE take a few paragraphs from the Report of the Committee of the Ecclesiological Society, referred to in our last.

"We proceed to remark on the actual architectural progress since our last anniversary. And first, as to the principal new churches which have come under the notice of the committee. Mr. Butterfield's new church of St. Alban, Baldwin's-gardens, has not yet been consecrated, but is about to receive its final mural decoration from Mr. Le Strange's pencil. Mr. Street's St. James's the Less, Garden-street, and Mr. Brandon's St. Peter's, Great Windmill-street, have been opened. Mr. Clarke has begun an interesting work in the new chapel of the House of Charity, in Soho-square; and Mr. Pearson has given an excellent design for St. Mary's the Less, Lambeth. St. Michael's, Star-street, Paddington, by Mr. Rohde Hawkins; St. Luke's, King's-cross, by Mr. Johnson; Mr. Blomfield's chapel-school, in Bedfordbury; and St. Stephen's, Spitalfields, by Mr. Christian, have been finished during the year. Out of London we have to notice Mr. Scott's churches of All Saints' Highgate, and Hawkhurst, Kent; Mr. Street's churches of St. George, Lilleshall, Shropshire, and St. John, Stourbridge, Worcestershire; Mr. Bodley's churches at Brighton, and of St. Martin-on-the-Hill, Scarborough; Mr. Slater's Digby mortuary chapel, at Sherborne, and his collegiate chapel of St. John's, Hurstpierpoint, Sussex; Mr. Norton's St. John's the Evangelist, Middlesborough, Yorkshire; Mr. White's Christchurch, Freemantle, Hampshire, and his design for a church at Masborough, Yorkshire; Mr. Pearson's St. Mary's, Dalton Holme, Yorkshire; Mr. Hugall's St. Mary's-church, Devonshire; Mr. Higham's Christ Church, Shield Field, Newcastle-on-Tyne; and a design by Mr. Crossland, for a church at Huddersfield. Mr. Slater's church of Bray, near Dublin, is making satisfactory progress. A new church, by Messrs. Welland & Son, called Zion Church, at Rathgar, also near Dublin, has been severely critcised in our pages as unworthy of the present state of ecclesiastical architecture among us.

The cathedral movement has made remarkable progress. A new cathedral is in contemplation for Aberdeen. In Ireland the example of Kilmore is to be followed by the rebuilding of the Cathedral of Cork. Tuam Cathedral also is to be rebuilt by Sir T. Deane & Son; the curious early choir (now used as a porch) being retained as a sanctuary. We have already described the design in our pages. A cathedral for the diocese of Connor, at Belfast, the second town in Ireland, has also been undertaken; and its erection is strenuously pushed by the diocesan. The restoration of Limerick Cathedral, by Mr. Slater, is in progress. Under this head may also be noted the refitting of the Cathedral at Londonderry.

In the colonies, also, we have to record the slow but steady progress towards completion of Sydney Cathedral; and of St. Andrew's, Singapore. Mr. Slater's design for Honolulu Cathedral has been published and described in our pages. Mr. Clarke's church at Point de Galle, and Mr. Bodley's design for a Mission Church at Delhi, are both very interesting works. Mr. Scott has designed a church for Calcutta. On the continent of Europe Mr. Statz's church at Aix-la-Chapelle, and Mr. Stadler's churches at Lucerne and Basle, have been described in our journal.

We proceed next to the Church Restoration of the year. First must be mentioned the beautiful restoration of Lichfield Cathedral, by Mr. Scott. The works in the lantern of Ely Cathedral, undertaken as a memorial to Dean Peacock, have been begun under the same architect. The present Dean of Ely has followed his predecessor's example in issuing a report of the progress of the work of restoration in his church. The works in Durham Cathedral have advanced satisfactorily under the care of Mr. Robson; as have those at Hereford, under Mr. Scott, whose restoration of the tabernacle work of the stalls in the choir is proceeding to a satisfactory completion. In York Minster considerable improvements have been made, especially in the manner of lighting the choir by a string of gas-jets below the great string-course of the clerestory. Less satisfactory are the destructive restorations at Worcester Cathedral, under a local architect, and at Bristol, under Mr. Pope. The scraping of Lincoln Minster has, we regret to say, been ruthlessly persisted in against the unanimous remonstrance of all competent authorities. Here we may note the useful and able line taken, in support of our own view, by a local newspaper, the *Lincoln and Stamford Mercury*. The question of the restoration of the Chapter-house at Westminster, now cleared of records, has been mooted with good prospects of success by the Dean, and taken up both at a meeting held within the building, and in a memorial signed by several hundred names, including an unusual proportion of influential persons of all opinions. Mr. Scott has recovered enough of the original detail to make the work a safe and easy one. The early and strong notice which the press has taken of the proposal to clog the building again with some documents of no value will, we trust, defeat that unlucky scheme. Also in London, the round church of the Temple is under restoration by Mr. St. Aubyn. It is extremely to be regretted that the conical roof is not to be restored. Mr. Withers has had the task of improving and partially restoring two London churches of the fifteenth century—St. Ethelburga, Bishopsgate, and St. John, Clerkenwell. One Wrennian church, SS. Augustine and Faith, Watling-street, has been decorated not unsuccessfully with polychrome. The restoration of St. Sepulchre's, Northampton, by Mr. Scott, is one of the most conspicuous works of the year out of London. Mr. Scott has also restored the ancient church in Dover Castle, and All Saints', Huntingdon: the improvement of Great St. Mary's, Cambridge, is, we hear, no longer to be delayed. Mr. Hussey's restoration of St. John Baptist's, Chester, has been noticed at length in our pages. Mr. D. Brandon has restored the Italianised interior of Benenden Church, Kent. Mr. Butterfield's restoration of St. Lawrence's, Alvechurch, Worcestershire, must also be noticed. The re-appropriation of Roslin Chapel to the purposes of divine worship must be commemorated. In the colonies Mr. Butterfield is about to reform and rearrange the Cathedral of St. George, at Capetown."

"The progress of religious sculpture during the year is best illustrated by the display in the International Exhibition. It is enough to mention the recumbent effigies of Dr. Mill, by Mr. Philip, now completed; of Lord Cawdor, by Mr. Forsyth; and the very beautiful ideal figure of a young lady, by Mr. Nicholl, under Mr. Burges's direction. Mr. Redfern's bassi relievi for the Digby mortuary chapel at Sherborne, and for the Westropp monument at Limerick; and Mr. Nicholl's sculptured reredos, from the designs of Mr. Burges, for Waltham Abbey, must be noticed with especial commendation. The committee must also notice the recumbent effigy under a recessed tomb to the late Rev. J. Murray, in St. Andrew's, in Well-street, which is in progress, by Mr. Nicholl, under Mr. Burges's directions. The memorial also includes a window, which is to be filled with subjects in grisaille, by Messrs. Lavers & Barraud, from Mr. Smallfield's designs.

The Architectural Productions Court in the International Exhibition contains several interesting objects, including a marble pulpit and reredos, designed by Mr. Street, executed by Mr. Earp; Mr. Slater's doorway for the Digby chapel at Sherborne, executed by Mr. Poole; an elaborate reredos, executed by Mr. Earp, in imitation of Mr. Street's style, from a design by Mr. Bentley. It is much to be regretted that Mr. Scott's stone and marble pulpit for Westminster Abbey, now erected in the nave, was not previously exhibited. There is also a Pointed fountain, by Mr. Nesfield. In an adjoining court, Mr. Slater's pavement for the sanctuary of Chichester Cathedral, in marble mosaic, is exhibited. Messrs. Clayton & Bell's panels in incised work, for the pavement of Lichfield Cathedral, are of unusual merit. One of them is shown in the Mediæval Court."

The report concludes with the expression of a belief that in every branch and department of religious art there are signs of vitality and growth; and that there is no longer any form of applied art among us in which there are not zealous workers and successful results.

UNIVERSITY COLLEGE.

THE following prizes have been awarded:—Architecture, by Professor Donaldson, M.I.B.A., Ph.D.—Fine Art, Second Year's Course: Prize, Rowland Plumbe; Certificates, 2, E. D. Drury; 3, Sydney F. Smith; 4, Charles William Brooks. — Construction, First Year's Course: Prize, Benjamin Corser; Certificates, 2, James Stanford; 3, Sydney F. Smith. Second Year's Course: Prize, Rowland Plumbe; Certificates, 2, Charles W. Brooks; 3, John Richard Gover. Professor Donaldson also mentioned Messrs. Clarkson, Donkin, Mason, Poole, S. Smyrke, and Spiers, in the First Year's Class; and Messrs. Plumbe, Drury, Green, and Brooks, in the second year's classes, as having carried off during the session various prizes for reports and essays required from time to time by the professor.—Civil Engineering, Professor Pole. Prize, John Hawthorne Kitson; Certificates, 2, Edward Wagg; 3, equal, Edward Crompton, Frank Thorowgood.

SCHOOL-BUILDING NEWS.

Bedminster.—The foundation-stone of the new parochial schools, which it is proposed to erect in connexion with the parish of St. Luke's, Bedminster, has been laid by the mayor of Bristol. The site of the proposed school is about 300 yards from St. Luke's Church, in what was formerly known as Weare's-mead. The style will be plain Early English. The building will comprise one schoolroom, 94 feet by 36 feet; two class-rooms, offices, and other conveniences; with two playgrounds in front. The estimated cost of the erection is 1,035*l.*, and the school is intended to accommodate 600 children. Mr. Crisp is the architect, and Mr. Norris the contractor.

West Bromwich.—The foundation-stone of new Ragged Schools has been laid here. Messrs. Nicholls & Bower are the architects, and Messrs. Stockton & Field, the builders.

CHURCH-BUILDING NEWS.

Otley.—Several important alterations have been lately carried out in the interior of the parish church of Otley. Two ornamental tables, relating to the local charities, have been painted in illuminated characters on the wall over the west gallery. The roof of the south transept has been coloured with geometrical patterns, and the two windows in this part of the building filled with stained glass. The larger of these windows, looking due south, and forming the principal feature of the transept on that side of the church, is of three lights divided by a transom frequently used in windows of this period, viz., of the fifteenth century. These six divisions are filled with stained glass in the following order:—The lower tier represents the Nativity of our Lord. In the centre light sits our Saviour on the lap of His virgin mother, while the magi and the shepherds, grouped in the side lights respectively, adore the new-born King. In the tier above is represented our Lord's Crucifixion, the side lights being occupied, as in the case of the lower tier, by pendent groups. On the one side are the three Maries, and on the other St. John, Joseph of Arimathea, and the good centurion. In the tracery are numerous angels under canopies. As this window represents our Lord's birth and death, the second one, looking east from the same transept, sets forth His resurrection. In this case the triptych order of arrangement is adhered to; the figures of the risen Lord and the Roman soldier being in the centre light, while the three Maries, St. John, and St. Peter occupy the side lights. The attitude of the Roman soldier is perfect: though in full armour, there is a lassitude and ease in the limbs quite striking. The entire cost of the decorations in this transept, amounting to several hundred pounds, has been paid in a most liberal and cheerful manner by Mr. Fison, of Greenholme, near Otley. A three-light window, situate in the north aisle, has also been filled with stained glass at the sole expense of Mr. Francis Billam, of Newall Hall, near Otley. This window contains three separate groups, emblematical of our Saviour's obedience, wisdom, and affection. In the centre is a representation of our Lord blessing little children, and in the side lights are set forth His discussion with the doctors in the temple, and His being subject to His parents. There are angels in

the tracery, and underneath the groups is the following inscription:—"In memory of a beloved child who was reclaimed by Him who gave her.' All the stained-glass work and the chromatic decorations in the south transept were done by Messrs. Clayton & Bell, and the ornamental tables by Mr. James Horner, of Otley.

Sheffield.—The chief stone has been laid of a new church for the Independents at Upperthorpe. The chapel will front on Albert-terrace-road, a little distance from the west wing of the General Infirmary. The style of the proposed building is Italian. The internal dimensions are 52 feet long, 46 feet wide, and 22 feet high, exclusive of orchestra, staircases, &c. The accommodation provided is sittings for upwards of 700. Underneath the chapel provision is made for a lecture-room, 46 feet by 26 feet wide, with closets, &c. The present contract, which is exclusive of the fences, &c., is about 1,800*l.* The total cost will probably be 2,000*l.* Mr. J. Hall is the architect; and Mr. G. Longden, the builder.

High Harrogate.—The alterations and enlargement of Christ Church are nearly completed; and the new portion of the church, namely, the transepts and chancel, have been opened for divine service. Christ Church was originally built in 1831. The original cost was somewhere about 4,000*l.* In the original design (if, indeed, a design had ever been drawn out) there was no chancel nor transept. The additions consist in plan of a north and south transept, a chancel, an organ chapel, and vestry. The work is designed in the Early English style, and is of more ornamental character than the older portion of the structure. Internally, however, the appearance of the old building has been improved by taking down the old flat plaster ceiling, and by filling in the roof principals, thus exposed, with open tracery work; after which the whole has been stained and varnished, to correspond with the new portion of the work. A central arch, decorated and enriched, and two subordinate side arches, open out the connexion between the old and new portions of the church, and the central arch is repeated at the chancel. The organ chapel, also, opens out into both transept and chancel by arches, relieved by mouldings. Low and open stalls or benches fill the transept and the choir, to be lighted with standard lights. The east and the south transept windows are filled in with stained glass, and the wall behind the altar, under the east window, is covered by a carved and enriched reredos, and the floor within the altar rails laid with encaustic tiles. The contract has been carried out by Mr. H. Horner, under the direction of the Faculty Commissioners and architects. The stained glass has been supplied by Messrs. Warrington, of London; the heating apparatus by Mr. England; and the reredos by Messrs. Mawer & Ingle, of Leeds. The works have been carried out under the superintendence of Messrs. Lockwood & Mawson, of Bradford, architects. The stained windows consist of the triplet east window, each division of which is a memorial to departed townspeople, and have been so placed by the desire, and at the cost, of surviving friends. The window in the south transept is in memory of the late Prince Albert, and has been subscribed for by a few of the inhabitants of High and Low Harrogate, and members of the congregation at Christ Church. Both windows have been executed by Messrs. Warrington & Sons, of London. The subjects emblazoned on the glass are as follows:—Turning to the east window, the first compartment on the left represents "Bearing the Cross" and "Raising Lazarus." The centre compartment represents "The Nativity," "The Crucifixion," and "The Ascension." In the right-hand compartment the subjects are "Noli me tangere" and "Raising the Widow of Nain's Son." The south transept window represents six different subjects, illustrations of the following scriptural pussages:—"Give me understanding, that I way learn Thy commandments" (Ps. cxix. 34); "Thy wife shall be as a fruitful vine" (Ps. cxxviii. 3); "In the morning shall my prayer prevent thee" (Ps. lxxxviii. 13); "Sympathy with the sick and afflicted" (Ps. xxxv. 14); Armorial Bearings of the Queen; Armorial Bearings of the late Prince Albert. This last window is to be paid for independent of the Enlargement Fund. The entire cost of the whole alterations and additions will be about 2,500*l.*

Ossett.—The chief stone of a new church to replace Trinity Church, Ossett, has been laid by Mr. Ingham, late of Ossett, now of Sicily, who provides 1,500*l.* of the 8,500*l.* requisite for the re-erection. The church will be in the Early second Pointed style. Mr. Crossland, of Halifax, is the architect; and Mr. Hampshire, of Huddersfield, the contractor. The edifice is cruciform; and consists of nave with aisles, transepts, chancel, with a south aisle, and vestry on north side. The nave is 28 feet wide within the walls, the aisles 14 feet, and the length of nave from west wall to chancel arch is 115 feet 6 inches. The transepts are 14 feet deep, and the chancel 35 feet. The square of the tower is 30 feet 6 inches. The aisles are 14 feet high to plate; nave 40 feet to plate, and 67 feet to ridge, having a clerestory 16 feet high. The chancel and transepts are each 30 feet to plate, and 57 feet to ridge. The total height of tower and spire is 210 feet. The ashlar stone for the external dressings is from Huddersfield, and the intermediate walling stone from Halifax; the internal dressings of Morley stone. The piers of nave arcade are to be of polished red and grey Aberdeen granite, with foliated capitals and moulded arches. The lesser shafts of the tower piers are also of granite. The aisle windows are coupled lancets with a quatrefoiled circle in the head. The clerestory windows are coupled lancets with a six-foiled circle in the head, all having a retaining arch. The east window has five lights, the centre light being broadest, the head being filled with geometrical tracery, moulded, and having inside Purbeck marble shafts with bands and moulded caps. The window is to be filled with subject glass. The west window is also of five lights, the transepts four lights, all with geometrical tracery moulded. Over the altar will be a representation, sculptured in bas-relief, of the Last Supper, having a border inlaid with marble. The floor will be laid with Staffordshire tiles and black and white marble. The seats are to be open, and of pitch pine; the total accommodation, 1,002.

Leeds.—The chief stone of a chapel for the Leeds Grammar School has been laid. The building is to be erected at the east end of the school; and it is intended to accommodate about 300 persons. The style of architecture will be Decorated; and it is designed to harmonize with the present school buildings. The architect is Mr. E. M. Barry. The interior of the chapel will be about 80 feet long by 24 feet wide, and the structure will be so arranged that it may be connected with the main building at a future time, if required. It will be completed in about nine months, and the total cost will be 2,500*l.*, the whole of which will be met by public subscription. No contract has yet been entered into.

Ellingham.—The church here has been rebuilt during the last year, and reopened for divine service. The old church, although modern, was two years ago pronounced unsafe by the archdeacon, after personal visitation: the foundation of the tower had given away, and had rent the whole edifice. The new church is cruciform, consisting of nave and chancel, and north and south transepts, with a porch on the south, and a vestry on the north. A square tower rises from the point of intersection. The amateur architect was the Rev. J. F. Turner; and the contractors were Messrs. Smith & Brown, of Coldstream.

Bradford.—The foundation-stone of a Baptist chapel has been laid by Sir S. M. Peto, bart., M.P., on ground adjoining Hallfield-road, Manningham-lane. The new building will consist of a chapel capable of seating 1,000 persons; a school-room for 350 children in classes; a lecture-room for 130 persons; a class-room, with gallery, for 80 infants; two class-rooms; a tea-room or class-room; a room for school library; minister's vestry, ladies' vestry, deacons' large vestry, cellar kitchen, and other apartments. The front of the chapel will front Manningham-lane, and the side elevation next Hallfield-road will partake of the same character as the front, and be consistent with it. The opposite (or quarter east) side is intended to be more simply treated. The school buildings are to be in the rear of the chapel, having an end frontage to Hallfield-road, and are so designed as to be subordinate in appearance to the chapel, but will be grouped with it. The style adopted (says a quotation in the local *Observer*) will be generally called Gothic, but widely differs from what is usually understood by that term. Internally, the chapel will be 53 feet wide, and 78 feet long, exclusive of organ recess, which is 14 feet deep; height of side walls, 30 feet; height from floor to centre part of ceiling, 41 feet. The construction of the interior divides the space laterally into a centre and two side compartments, as "nave and aisles." Coupled iron columns, each 7 inches diameter and 3 inches apart, support the side galleries, and are carried upwards to receive Pointed arches of brickwork which carry the roof above. There will be five arches on each side, each 13 feet span. Over the lecture-room and class-rooms, &c., will be the school-room, 60 feet by 30 feet, and 22 feet high, approached by two separate stone staircases for boys and girls, and communicating with the side galleries of the chapel. A tea-room, to be provided with boiler, &c., complete, adjoins the school-room. In front of the chapel will be a stone terrace, 10 feet wide, with three flights of steps. The walls of the building are to be of stone throughout, faced with hammer-dressed courses; and the dressings are to be of stone from Bolton Wood. Contracts have been taken for the works as follows:—

For the excavators', masons', carpenters', and joiners' work, and the boundaries complete—by B. Illingworth, of Bradford	£3,968 10 0
For the slaters' work—by J. Tattersall, of Bradford	178 10 3
For the plasterers' work—by T. Hargreaves, of Bradford	145 0 0
For the plumbers', glaziers', painters', and smiths' and ironfounders' works—by J. Keighley, of Bradford	455 0 0
Total	£4,747 0 3

These contract amounts are exclusive of heating apparatus (which will be supplied by Messrs. Haden & Son, of Trowbridge), gas, and chapel and school furniture, which, together with the land and architects' commission, &c., will swell the total expenditure to about 6,500*l.* The architects are Messrs. Paull & Ayliffe, of Manchester.

Murton (York).—The foundation-stone of a new Wesleyan chapel has been laid at Murton, near York, by Mrs. Singleton, late of York. The building will provide accommodation for about seventy persons. The architect is Mr. E. Taylor, of York: while the work has been intrusted to Mr. J. Walker, builder, York.

Guernsey.—The foundation-stone of a new Wesleyan chapel at St. Martin's, Guernsey, has been laid by the Rev. William Morley Punshon; and its name will be Morley Chapel, in compliment to the reverend gentleman who laid the stone. The *Comet* gives the following information:—"It will be an ornament to the neighbourhood, the design being Gothic. It will consist of a nave and transept, the nave being crowned with a centre finial, and on each quarter a steeplet. The building will be of red granite, and random masonry. The walls will have buttresses pointed with Portland cement. The length of the building is 42 feet, and width 33 feet; length of transept, 47 feet. The walls are to be 16 feet in height, and 40 feet from the ridge to the ground. The roof will be slated. A centre window of quarried glass, 14 feet in height and 7 feet in width, will adorn the front and on either side of the doorway will be a lancet window. On either side will be three windows, one at each end of the transept, and two in the nave. The building is calculated to seat 218 persons, of which fifty sittings will be free. The estimated cost is 450*l.* Mr. Peter Gallienne, formerly in the employ of the late Mr. M. de Putron, is the contractor. It is to be completed in nine months."

STAINED GLASS.

Middlewich Church.—The restorations of this church are drawing to completion. The south side of the clerestory is enriched with five stained-glass windows, by Messrs. Laver & Barraud, of London, the gifts of Messrs. J. France, E. Moss, and J. Blackwell; Mr. Clark, the architect, and Mr. Jones, the contractor. The subjects are the Twelve Apostles, the Two Evangelists, and St. Paul. A memorial window, by the same artists, has been placed in the south aisle, by Mr. W. R. Court, of the Manor House, Newton, in remembrance of his late father; the subject being the Nativity of our Saviour. The north aisle has also been enriched with a stained-glass window, in memory of the late Mr. Peter Barker, by Messrs. Heaton, Butler, & Bayne, of London, representing the Six Acts of Mercy, the Good Samaritan, and the Prodigal Son. This window is the gift of Mr. C. F. Barker. The baptistery has also been filled with stained glass. The window is in the Pointed style, and consists of three lights. The centre compartment contains two subjects, viz, "The Baptism in Jordan," and "Christ Blessing Little Children," each of which is surmounted by a canopy. The name of "Jehovah," inscribed, in Hebrew characters, on a radiant, divides the pictorial representations. The lateral divisions are filled with a mosaic design, and surrounded by a border of foliage. The tracery in the upper portion displays a floriated pattern, with a ribbon, set on a ruby ground, and inscribed, "This is my Beloved Son," the apex terminating with a descending dove. The window was designed and painted by Mr. C. Evans, at the manufactory of Messrs. Evans & Brothers, of Shrewsbury.

St. Mary's, Hulme.—The two central lights of

the great east window of this church have just been filled up with stained glass. According to the *Manchester Courier*, each light contains three subjects, illustrative of the life of our Lord, enriched with canopies and borders. The following are the subjects:—"The Raising of Lazarus," "The Transfiguration," "The Sermon on the Mount," "The Last Supper," "The Washing of the Disciples' Feet," and "The Triumphal Entry into Jerusalem." The artists were Messrs. Hardman, of Birmingham. The lights are the gift of a member of the congregation of St. Mary's, who intends to fill the whole window gradually; a design having been prepared for the whole, which will represent eighteen events in our Lord's life, from the Annunciation to the Ascension, in the six lights; the tracery being filled up with the four Evangelists, angels, &c. The east window of St. Mary's Church is the largest in Manchester, and one of the largest in the north of England; being 48 feet in height and 28 feet in width; and, when completely filled with stained glass, will be a marked addition to the church.

PROVINCIAL NEWS.

Everton (Liverpool).—The foundation-stone of the new public baths for Everton and its neighbourhood has been laid by Mr. J. Newlands, the borough engineer. These baths are to be erected between Cresswell-street and Margaret-street. A pleasing feature connected with the ceremony was the presentation to Mr. Newlands of a handsome silver trowel by the *employés* in his department of the Health Committee's executive.

Bingley.—A new court-house and prison are to be built here, to transact the business of the county in, and also for the Improvement Commissioners of Bingley to meet in; and a house for the fire-engines belonging to the Improvement Commissioners is to be connected with it. The masonwork has been let to Messrs. Clark, masons; the woodwork to Mr. W. Whitley, joiner; the slating to Mr. T. Thornton; and the plumbing to Mr. Dawson, all of Bingley. It is supposed that the building and site will cost upwards of 1,300*l.*

Leicester.—Amongst town improvements we may note the extensive additions now in progress at a warehouse in Campbell-street, belonging to Messrs. Evans & Stafford. The new buildings chiefly consist of stabling, coach-houses, harness-rooms, granaries, and store-rooms for hay and straw. They are approached through an archway with ornamental gates, surmounted by a group of sculpture representing Commerce and Agriculture, with a central figure of Britannia. The sculptor was Mr. Farmer, of London. On either side of the archway is an ornamental cast-iron railing. The new wing itself is decorated with carved stone medallions of Flora and Minerva, in correspondence with a similar style of ornamentation on the old building. A conspicuous feature in the premises is the glazed front of a covered yard, the idea of which appears to have been taken from the Crystal Palace. Fox & Barrett's fire-proof patent has been used in parts of the new building. The entire premises cover an area of 2,680 yards, and have three street frontages varying from 100 to 180 feet in length. The architect is Mr. H. Shenton, of Leicester.

SCOTTISH NEWS.

Edinburgh.—It is curious to mark the wide difference in the style of building houses for the working and middle classes, as exemplified in several parts of the Old and New Towns of Edinburgh. The erections of an older date, though massive and enduring, possess little comfort for the inmates from their interior arrangement; while the shops on the ground-floor are small and obscure, and sometimes badly lighted, from the projection of the upper part of the wall. The modern style of building, however, has ample size of rooms, and large and variously-formed windows. The New Town of Edinburgh has long been characterized by many buildings of this description; and, recently, specimens have been reared in the more ancient parts of the city. The foundation of a new dwelling-house, with shops, according to the local *News*, has just been laid in Montague-street, at the south end of the town. The building is to contain shops on the ground-floor, and four stories above, divided into shut-in half-flats, with every necessary accommodation. The frontage is 74 feet, and the height from the ground level to the ridge is 65 feet. Underneath the pavement, there is a depth of 10 feet for cellarage. The shop-fronts, though on a line with the range of houses on each side, project 3 feet 6 inches beyond the wall of the building, and have large windows, with sheets of plate-glass between the windows and the inner wall. The corner near Montague-street is furnished with a shop-entrance, and an angular dormer-window above, terminating in a short pinnacle. The proprietor and architect of this building is Mr. Gibson, and the contractor for the mason work Mr. Henderson, builder.

Portobello.—The tenders for the erection of the Town-hall buildings were opened by Mr. Bryce, architect, in the Council Chambers, before a meeting of the directors, when the following were accepted:—Messrs. A. & J. Wilson, Tranent, mason-work; Mr. H. Scott, Portobello, joiner-work; Messrs. Hume & Co., plumber-work; Mr. Anderson, Edinburgh, slater-work; and Mr. Sinclair, Portobello, plaster-work. The architect and directors have specified that the rubble stones are to be from Tranent, being of a superior quality; and the stone for front elevation from Burntisland. The estimates are considerably below the capital of the company.

Glasgow.—Between twelve and one o'clock on Saturday morning last, a large portion of a three-story brick building, occupied as a printing establishment by Messrs. Bell & Bain, in St. Enoch's-lane, fell with a tremendous crash. It appears that the ground next the building was being excavated for a sunk floor to premises about to be erected at the back of the property lately belonging to the Faculty of Physicians and Surgeons. Fortunately, no one has been injured, the fall having taken place early in the morning.

Dumfries.—A new building for the Dumfries branch of the National Bank, erected on the site of the premises formerly occupied by the bank, near the foot of Bank-street, approaches completion. The building has been constructed from designs and plans furnished by Mr. A. Fraser, architect, Dumfries; and will cost, when finished, about 2,500*l.* It contains accommodation for the offices of the bank and a house for the agent. The stone of which the edifice is built is the red sandstone of the district. The frontage of the building towards Bank-street is 40 feet in length, but at the back the length is 70 feet, the building extending upwards for about 30 feet at the back of the Custom House. The height in front is 45 feet. The exterior of the edifice is in the Italian style, and the carved enrichments on the front have been executed by Mr. Wm. Flint, stone-carver, Dumfries. The building is finished with a dentilled cornice surmounted by an open balustrade. The whole of the windows to the front are of plate-glass. In regard to the interior accommodation, the public office or telling-room occupies the front portion of the building on the ground-floor—its dimensions being 25 feet by 19. The consulting and clerks' rooms are at the back. The height of this story is 14 feet. The agent's house occupies the second and third floors. The mason's work was contracted for and executed by Messrs. Crackston & Son, and the joiner work by Messrs. Grierson & Son. The other contractors were Messrs. Adair, slater; Drummond, plumber; Fraser, plasterer; and Aitken, glazier.

Perth.—The foundation-stone of the chapel of the Evangelical Union Church, now in course of erection in High-street, has been laid. The building, which has been designed by Mr. James Watson, is to be in the Gothic style. It will be seated to hold nearly 500. The slaters, plumbers, and plasterers are, respectively—Messrs. M'Lachlan, Donaldson, and Mackay.

Ordiquhill.—The *Banffshire Journal* states that the parish church of this place has been repaired and reopened at the cost of Major Duff. The old earthen floor has been replaced by a wooden one, at a lower level; and the walls have been lathed, the windows enlarged, and the front of the gallery renewed. The alterations and improvements were carried out under the superintendence of Mr. J. Stevenson, of Portsoy, architect: the painting-work was by Mr. Geddes, of Banff; and the plaster-work by Mr. Wilson, of Keith.

STATUES AND MEMORIALS.

The Outram Statues and Testimonial.—Upwards of 8,000*l.* have been subscribed towards the proposed statues and testimonial. One of the statues (bronze), by Mr. Noble, is to be erected in London; and an equestrian statue (bronze), by Mr. Foley, will be erected in Calcutta. A silver dessert service (value 1,000*l.*), has been presented with an address bearing the names of those who have subscribed.

Statue of Hallam.—Mr. Theed has just executed a statue of Hallam, which is about to be erected in St. Paul's Cathedral. Somewhat above the life size, the historian is represented standing in his doctor's robes, pencil in hand, and grasping a manuscript volume in which to write.

The Memorial of John Locke.—This work of art was inaugurated at the Shirehall, Taunton, on July 1st; the bust of the celebrated Somersetshire philosopher having been placed in the building near to the one recently deposited to the memory of Admiral Blake. There was a large attendance of county magistrates, presided over by Sir William Miles, bart., M.P. The bust of Locke has recently been exhibited in the studio of Mr. Papworth, in London.

Memorial of the Children of the Murderer Taylor.—A monument, from the design of Mr. B. Lee, has been erected by Mr. W. Grimshaw, stonemason, in the Harpurhey Cemetery, over the grave of the three children of the murderer Taylor. The monument is in the form of a quadrangular obelisk, 9 feet high, surmounted by a Latin cross, and is made of Burnley stone. On one side is the following inscription:—"These poor innocents were found dead on the 16th of May, 1862; and, to avoid a pauper's grave, Mr. B. Lee received, in a few hours, from upwards of 3,000 persons, of all classes and sects, voluntary contributions sufficient to provide a respectable funeral and to purchase this monument. One touch of nature makes the whole world kin." The grave is enclosed by a low kerb stone, surmounted by iron palisading, ornamented with crosses. The enclosure will be planted with shrubs, presented by Mr. Copeland, of Manchester. It was in consequence of labels, written by the murderer, or his accomplice, having been placed on the breasts of these poor children, to the effect that they should be buried at Harpurhey (where their sister, killed by the boiler explosion, had been buried), that the burials took place there; and although one can sympathise to a certain extent with the feeling which prompted so many to obviate a pauper's funeral in this case; still we think the matter, under the peculiar circumstances, has been carried rather too far; and the motives are but too likely to be misunderstood.

THE SHREWSBURY SEWERAGE QUESTION.

THE report of Mr. Bazalgette on the five sewerage plans submitted to him has been made to the corporation of Shrewsbury. These plans, the reporter says, all bear marks of much thought, labour, and merit; but he does not exclusively adopt any one of them, in his recommendations, as a whole. The plans he submits are intended to embrace the best points in each. The report then goes on to say:—

"I therefore recommend that the outfall be placed at the borough boundary near to Preston Boats, and that a sewer be constructed nearly in the route recommended by Mr. Curley, up to the railway at Abbey-foregate, as shown upon the accompanying plan and section. The invert of the main sewer would be 5 feet in diameter, and rise at an inclination of 4 feet in a mile, which would produce a velocity of current when running half full of nearly two miles per hour, and a discharging power of upwards of 200,000 cubic feet per hour. At the Longden Coleham road it would receive the branch sewers from the Abbey-foregate district, and about three-quarters of a mile of the main sewer would be in a tunnel; thence it would be continued, by 166 yards of iron pipe 4 feet 6 inches in diameter, underneath the river, and through the western arch of the English Bridge to the towing-path, where it would receive the drainage of the southern and eastern portions of the town. A brick sewer, 4 feet 6 inches in diameter, with an inclination of 4 feet 6 inches per mile, would be continued thence along the towing-path to a point about 300 yards north of the English Bridge, where it would turn, in a nearly direct line, through a tunnel 266 yards long, underneath the town, to about the centre of the Cattle Market: here it would receive the drainage of the Castle-foregate district, extending on to Ditherington; and, at the eastern side of the Cattle Market it would receive the drainage of the principal portion of the town. From this point an iron pipe, 2 feet high by 3 feet wide, and 66 yards in length, would be carried underneath the river; and an egg-shaped brick sewer, 3 feet 9 inches high by 2 feet 6 inches wide, would be continued, at an inclination of 1 in 73, up to the Frankwell district. The routes, sizes, and levels, proposed for the branch sewers, are shown upon the accompanying plan, sections, and table. According to the information given to me when at Shrewsbury, it would appear that the present sewers are not of sufficient depth, and cannot on this account be made available in the proposed system of drainage."

The plans, therefore, provide for the entire re-drainage of the borough. Ventilating shafts at the upper ends of all the branch sewers, and others at intermediate points, are recommended. These, the report adds, may in cases be carried up the backs of houses; or, where this cannot be managed, ventilating gratings, with charcoal deodorizers, may be fixed in the streets. The question of the application of the sewage of towns to agricultural purposes "is at present," says the reporter, "in so unsatisfactory a condition, that I am unable to point out any mode by which the corporation can

dispose of their sewage with profit, or deodorize it without cost; and I have thought it prudent to secure an outfall into the river at a considerable distance from the town." The complete system of sewerage for the borough, according to the report, will not exceed 30,000*l*.

A NEW STYLE.

"ANOTHER cry for a New Style" has raised an echo more powerful than itself. And to be deeply regretted it is that former cries should have passed unheeded, when the necessity is so great, so obvious. For what reason have they done so? Because architects, having fallen slaves to precedent, have neglected to strive as a body towards the goal; and as well might a handful of men strive to conquer an opposing army, as one man or two to create the style which, humanly speaking, certainly will arise. To our disgrace, it may not be in our time; the architecture of which, to posterity, must be marked by incongruity and evidences of misdirected talent.

Can any one be so narrow-minded as to doubt the possibility of a new style arising? As well might he dispute that no thoroughly original piece of music should ever be composed. The requirements of the style would merely be, a different arrangement and quantity of the perpendicular line, the horizontal, the circle, ellipse, or curve (why should *we* suppress any of them?): one predominating in a different degree over the other, as the original piece of music would depend upon a different arrangement of the notes and time. As an original composition in music may be the work of one mind, the effort is often made and brought to a successful issue; and only for the reason that the new style of architecture will receive birth but from the impetus of collective mental exertion, has the effort never been successfully made in our day.

Had the question been mooted when the Norman style obtained in this country, "is it possible that a phase of this style, very different from the one we are practising, shall prevail?" No doubt many would have pronounced the idea utopian, as many now pronounce that of a nineteenth-century style to be. But the effort, if made, must eventually be crowned with success, seeing the superior mental culture and other advantages possessed by men of the time; even to say nothing of the number competent to the work—far greater than we have any reason to believe originated any existing or obsolete style.

The use of small stones conduced to elicit the arch of Gothic architecture—its marked feature. Had architects been possessed of larger stones, with engineering contrivances to apply them, in all probability beauty would have given way to adaptability, and the superincumbent wall been carried by a lintel; and that the door and window arch led the way to the grand display of groining, as Gothic was developed, may be assumed.

I advance this as a proof that circumstances, unforeseen by those striving, may form the clue (and it seems very slight indeed) on which the whole issue turns. They could not see that the necessity to use small stones would resolve itself into a means of producing a then original style; but they were fully acquainted with no other; and, by sheer force of application, the necessities and predilections of those barbarous times, they succeeded in leaving a fashion which we are not ashamed to use: though we should not hazard appearing in their dress, and have no Quixotic regret that these feudal times have gone,—"good old times,"—

> "when men
> Prowled on each other's path, to find
> Their fellest foes in humankind;
> And, hemmed around by fears and wars,
> Kept life and wealth by blood and scars;
> Revenge and hate their constant toil;
> By turns a spoiler and a spoil."

Yet we lose sight of progress in architecture by looking back: much of our architectural knowledge is more fitly in the province of the archæologist. We can pass over anything ugly in the works even of well-known architects, on the score that it is quaint; and to be able to furnish an instance where the ancients did this or that in a like manner, silences every opponent. Much of the ornament of lately-built churches is more worthy of a Red Indian than a civilized mind of such an age;—rows of notches; concentric circles; and other such primitive decorations; beautiful gurgoils, where everything that is lovely and sublime is sought after and attained; grotesque griffins, which fitly show the grotesque state of the brains that placed them there.

But, as Classic and Gothic have both fallen into disuse before, they certainly shall do so again, or blend. We have no necessity to throw out expensive abutments for the purpose of covering wide spaces; nor to choke our churches with clustered shafts;—and these, with many other such malpractices, must pass, and give way to a style adapted to the appliances of an advanced age.

VERITAS.

WORKMEN AND CHURCHES.

SIR,—A discussion upon religious topics appears somewhat out of place in the columns of the *Builder*; but the subject of church attendance having been broached in a recent issue, I trust you will admit a few remarks thereupon by one who has a workman's thoughts, sentiments, and, possibly, prejudices.

Your correspondent, in adverting to the fact that working men, as a rule, are not church or chapel goers, assigns, as a reason, the existence of pew-rents. Doubtless this is one; but in my view it is not the only or most powerful reason. We are repelled by the modern form of sermonizing, in which are served up dry, abstract reasonings upon points of doctrine, so very, very misty that we don't understand them. The sort of preaching now in vogue may suit some persons, but it will never interest the mass of the people. There is so much vagueness and indefiniteness about it, accompanied by a paucity of vigorous and telling illustration, that it fails to awaken the drowsy powers of the hard-working mechanic or labourer. If the so-called *preachers* of the gospel would abandon doctrinal preaching; aim more at a practical exposition of Christianity, as exemplified in the life and character of Christ; and establish a freer, easier, and more open communication with their hearers than at present prevails; I will venture to say that complaints respecting our neglect of religious services would be far less frequent than they now are.

Your correspondent also thinks that there is not sufficient church accommodation, and he suggests that large employers should open their shops for services to be conducted by the men themselves. There are, however, difficulties in the way of adapting our workshops to such a purpose. But if there were not, I doubt the propriety of such a step. In the first place, by far the larger number of men in London reside at too great a distance from the shops where they work, to be induced to go there on Sundays. Then look at the comfortless and chilly aspect of our workshops generally. It is all very well for the easy church-goer, in his comfortable cushioned and curtained seat, to talk of preachings or services in workshops; but, with all due respect, our well-to-do friends must understand that we, who, by our labour and the exercise of our skill, contribute to their comfort in the house of God, keenly appreciate comfort ourselves. We build up forms and carry out designs of beauty, upon which the eye of the wealthy loves to gaze, even when ostensibly worshipping God. Surely it is rather too much to expect us to be content with the surroundings of a workshop—the rough rafters and brick walls—hard seats, benches, tools, and work, all reminding one of hard toil. Such things are anti-devotional; and, therefore, admitting that more places are desirable for worship, I say emphatically, keep out of the workshop.

And for another reason I urge this, because there is no necessity for it. In the metropolis there are nearly, if not quite, 300 temperance halls, in some of which services are now held; and I know of no reason why there should not be in all. Again, look at the number of National and British school-rooms in our midst: if there is scant accommodation for us in churches or chapels, we have here the means of remedying the evil, and at a very trifling expense. I know the sort of prejudices that stand in the way of adopting my suggestion. In urging this very point upon a respected clergyman in my neighbourhood, and pointing out the propriety of conducting services therein in a more unpretentious and familiar manner than the ordinary church service, he was afraid that, if made thus interesting, these supplementary services would entice people from the regular services! I said, "Supposing it should be so, what then, sir? Is not a man far more likely to be profited by what he is interested in, than that in which he feels little or no interest, where there is nothing to attract and fix his attention?" This was admitted; and yet the worthy divine dreaded the idea of attempting to introduce services of a more interesting and popular character in the immediate neighbourhood of his church. There was another fear upon the good man's mind. Evidently he dreaded appearing to sanction unconsecrated ministrations; for I should observe that my plan comprehends not only reading by working men, as suggested by your correspondent, but also brief comments upon Scripture narratives and events, &c.

This prejudice of a bygone age is, I am afraid, far from being extinct, and will probably stand in the way of National schools being used for this purpose. I do, however, hope that some of our well-wishers within the pale of the Church, abandoning some little of the pride of station, will cordially invite the co-operation of religious-minded working men to make an effort in this direction.

Your correspondent, at the close of his letter, refers to the responsibilities of employers in this matter. Alas! sir, my own experience proves that few—very few trouble themselves about this responsibility. I have known and worked for professedly religious employers, who did not care a straw whether a man was religious or not. So much have I seen of this sort of thing, that I candidly confess I do not believe in religious employers as a rule. The irreligious workman notices this, and learns to speak contemptuously of the profession of such men; or, rather, they learn to speak contemptuously of religion itself.

In conclusion, I hope the subject, once set on foot, will be thoroughly discussed. Meantime, I would suggest to the friendly correspondent so deeply interested in our religious welfare to make an effort to get up a private meeting, both of rich and poor, in his own immediate neighbourhood, in order to have a quiet chat upon the topics started in his letter, and the comments I have ventured to make thereon. I think something practical would result.

WILL JACKPLANE.

PARIS PERMANENT EXHIBITION.—The architect of the edifice is Mr. Liandiet: the iron columns are being cast by Messrs. Eddington & Co., of Glasgow.

Books Received.

Development of Ornamental Art in the International Exhibition. By C. DRESSER, Ph. D., &c. Day & Son, Lincoln's-Inn Fields. 1862.

THE object of this little work is to present to International Exhibition visitors the means of judging of the merits of the ornamental art-works there set before them, by a concise statement of laws which govern the production and application of ornament, with reference to the best examples.

A few of Dr. Dresser's chief axioms may be quoted in order to show his ideas on the moot subject of beauty in ornament.

An object must fitly answer the purpose for which it has been originated. Curves will be found to be more beautiful as they are subtle in character. Proportion, like the curve, must be of a subtle nature. A principle of order must prevail in every ornamental composition. The repetition of parts frequently aids the production of an ornamental effect. Alternation is a principle of primary importance in certain ornamental compositions.

These he specially indicates as the primary principles of ornament. "But," he adds, "it must not be thought that these propositions, or, indeed, any others, can set forth the nature of ornament so fully that a mere glancing over them will render the reader, who now for the first time devotes his attention to the subject of decoration, at once competent to determine the merits of the works of art; for long cultivation is necessary in order that the perception be so quickened in relation to form, that the beautiful, in all its modifications, can promptly be separated from that which is devoid of this quality. All that we can hope to do, in a brief summary like the present, is to call attention to a few salient features which will lead to a consideration of certain of the fundamental truths of ornament." And this the author does with clearness and ability, calling to his aid the writings of others.

Scudamore Organs; or, Practical Hints respecting Organs for Village Churches and Small Chancels, on Improved Principles. By the Rev. JOHN BARON, M.A., Rector of Upton Scudamore, Wilts. With Designs by GEORGE E. STREET, F.S.A. Second edition, revised. London: Bell & Daldy. 1862.

THE Scudamore organs have advanced in repute since the issue of the first edition of this volume, which was favourably noticed by us at the time. The reverend author's objects have been not only the cheapening of the organ as an instrument of divine worship, but its improvement by riddance of false facings, and the transference of its general arrangements and designs from the hands of the tradesman into those of the architect and the employer, stripped of those absurd and useless mufflings and falsities in which it has been so much the modern practice to envelop and disfigure such instruments; and the author has more especially in view the adaptation of them for village churches and small chancels.

VARIORUM.

"LONDON SOCIETY" (49, Fleet-street) is making good progress. The illustrations are numerous, and for the most part excellent. The July number contains, with various stories and essays, some sensible art notices.——"Female Education; and how it would be affected by University Examinations: a Paper read at the Social Science Congress, London, 1862. By Frances Power Cobbe. London: Emily Faithfull & Co., Great Coram-street." The proper education of women is a most important subject, which urges itself more and more upon the public attention. If woman be the "weaker vessel," there is all the more reason why her mental training should be carefully attended to. Woman is man's own first teacher; and even self-respect ought to induce him to aid her in worthily fulfilling such an office. Mrs. Cobbe's paper contains some sensible remarks on the subject of female education. At the close she says:—"But, after all, refined women will best prevent the growth of strong-mindedness, in its obnoxious sense, by bringing their own good taste to help their sisters, whom the harsh struggles of life under a woman's disadvantages have perhaps somewhat hardened and embittered. And men who laugh at the absurdities (incident, alas! in some mysterious way to all the doings of women), will also, in graver moments, feel that there is another side to the subject, not a ludicrous one; and that the answer

of the poor frogs to the boys in the fable might often be made by human sufferers—'throwing stones may be fun to you, but it is death to us.' To aid a woman in distress was deemed in the old days of chivalry the chiefest honour of the bravest knight; it is assuredly no less an honour now for wise and generous men to aid the whole sex to a better and nobler life, and to the developing more perfectly, because more fully and freely, that Womanhood which God has also made in His own image—a divine and holy thing."—— "The Social Science Review" of July 5th (publishing office, No. 10, Whitefriars) shows that this periodical is progressing. It contains articles on the Post-office, Domestic Animals, Proceedings of the Social Science Association, the Journeymen Bakers' case (a crying evil and a disgrace to "the nineteenth century"), on Vice and Disease, Prisons, Education, and other interesting matter.——"The Popular Science Review" (Hardwicke, Piccadilly), for the quarter commencing with July, has been issued. It contains various able and important papers, on the Physics of a Sunbeam, the Microscope, Tubular Bridges, Primitive Astronomy, and others.

Miscellanea.

THE NEW SHERIFFS OF LONDON AND MIDDLESEX.—Alderman James C. Lawrence, citizen and carpenter, known necessarily to many of our readers, has been elected Sheriff for the ensuing year. His colleague in the office is Mr. Hugh Jones, citizen and spectacle-maker.

WORKS ON THE SERPENTINE.— In reply to a question in the Commons, Mr. Cowper said an unexpected delay had arisen in reference to the sinking of the well at the head of the Serpentine. He hoped the well would soon be in order, and that the water in it would be available.

NUMISMATIC SOCIETY.—A *conversazione* given by this society was held at the house of the Treasurer, Mr. Virtue, Euston-square, on Thursday evening, the 26th of June. A large number of very interesting coins and medals were exhibited by members of this society and their friends, through the exertions of Mr. Madden, honorary secretary, to whom the arrangements of the evening were mainly due.

THE "LONDON-FIELDS" QUESTION.—A numerous meeting was recently held in Shoreditch, to protest against the threatened sale of these fields, and their appropriation to private uses; when several resolutions were passed condemnatory of the attempt; and a committee appointed to wait upon the vestry, to urge upon that body to take steps to extinguish the rights of the present freeholders by purchase, and to devote the fields to public use.

DEATH OF MR. JAMES BOWMAN LINDSAY, OF DUNDEE.—The Dundee papers announce the death of this gentleman, who is known to our readers as the originator of a scheme for telegraphing across rivers and seas without wires or cables. "Mr. Lindsay," says the *Courier*, "was perhaps the most remarkable man that ever lived in Dundee. His extensive learning enabled him to conduct private classes in all the languages, and in mathematical science. He was a free contributor to the local journals on scientific subjects, and published several learned works. Among these was the Lord's Prayer and Creed in fifty different languages. His house had acquired a celebrity as one of the curiosities of the town. Lord Derby's Government recommended him to her Majesty, and he obtained a pension of 100*l.* yearly. This relieved him from the necessity of labour." The *Advertiser* says:—"He had discovered as early, if not earlier, than Morse or Wheatstone, the principles of the present system of electric telegraphy. Immediately after the public adoption of the system of land telegraphy, Mr. Lindsay directed his attention to the sending of messages across water by means of insulated wires; and succeeded — after several trials on ponds and sheets of water in the neighbourhood— in establishing on a sure basis the principles of electric communication by insulated submerged wires. Nor did he stop here: his searching experiments inspired him with the hope that one day he would be able to transmit messages across rivers and seas without even the aid of wires. Mr. Lindsay so far perfected his invention as to transmit currents without the aid of wires across several small pieces of water—the last occasion on which he publicly experimented with this invention being in Portsmouth, about two years ago, when he was highly successful, and the results afforded great satisfaction to the scientific men who assisted."

ECCLESIASTICAL COMMISSIONERS, IRELAND.—Mr. James F. Fuller, architect, has been appointed to the north-western division of Ireland under the Ecclesiastical Commissioners. There were more than 100 candidates for the post. A vacancy in the office in Dublin was filled at the same time.

BLUE LIAS LIME.—The manner in which the fallen masses of brickwork on the Metropolitan Railway have held together having been the subject of congratulatory observation, it is only fair to say that the mortar used there for building the tunnel and retaining walls was made with Greaves's blue-lias lime. The same lime is used in the Main Drainage works.

THREATENED ENCLOSURE OF HAMPSTEAD-HEATH.—A Bill has been introduced into the House of Lords to amend the Settled Estates Act of 1856. The object of the Bill is to enclose Hampstead-heath. Parliament having thrown out a private Bill to effect the enclosure, and the Court of Chancery having refused a similar application, it is now proposed to enact that no application shall be deemed to have been rejected on its merits, or reported against by the judges, if any other application to effect the same or similar object shall have passed either House of Parliament, or shall have been approved of by the judges to whom such Bill may have been referred.

ECCLESIASTICAL DILAPIDATIONS BILL.—This Bill of the Primate, as altered in the select committee, makes no distinction between present and future incumbents, and provides concerning all that it shall be lawful for the bishop, on the complaint of the archdeacon or of the patron, that the buildings of a benefice are in a state of dilapidation; or at the request of the incumbent, to direct a surveyor for the dioceses to inspect the buildings and report upon them; and the incumbent must execute the repairs prescribed in such report, subject to any modification made by the bishop after hearing the incumbent's objections. But when any such complaint is made by the archdeacon or patron, the incumbent may give notice that he intends forthwith to put his buildings in proper repair, and in that case the surveyor is not to inspect and report at that time.

METROPOLITAN BOARD OF WORKS.—At the ordinary weekly meeting of the Metropolitan Board of Works, held on the 4th inst., various tenders for the engine-house and works for the southern outfall sewer were considered. The engineer's estimate was 312,000*l.*, including 30,000*l.* for extras. The Board sat for some time with closed doors, and ultimately decided on accepting Mr. Webster's tender, because he had done the previous work well and satisfactorily. The tenders for engines and pumps were next considered. The engineer's estimate was 45,000*l.* The Board decided to refer the matter to three engineers, to ascertain which proposal would be the cheapest, taking into consideration the cost per horse-power of working the engines. Mr. Miller moved that a resolution of the Board of the 20th of June last, to the effect that the Board should not petition against the Tramways Bill, be rescinded. An animated discussion ensued; during which it was admitted that a large number of persons had travelled by Train's tramway because it was cheap, expeditious, and commodious; but it was a nuisance to others who used carriages, and ought, therefore, to be resisted. On a division, the motion was lost by a majority of 19 to 9.

AWARD OF JURIES, GREAT EXHIBITION.—On this, Friday, the 11th, the state ceremony to be held by the commissioners of the Exhibition of 1862, on the occasion of the declaration of the awards of the juries, will take place in the Palace of Art and the Horticultural Garden, on which occasion a very large assemblage of royal and important personages will take a part in the proceedings. A dais will be erected on the base of the Memorial of 1851, on which, if the weather be favourable, the ceremony of delivering their awards by the Juries to her Majesty's representative, the Duke of Cambridge, and to the special representatives of foreign countries, will be gone through. Should the weather prove unfavourable, this part of the ceremonial will take place in the Conservatory. After receiving the awards, a procession will be formed, which will pass along the arcades to the Exhibition buildings, and at various stations will deliver the awards to each nation or class. The hint may be useful to those who see it in time, that no one will be allowed to go from one place to another during the procession: those who prefer to see the opening ceremony, therefore, must remain in the garden; and those who prefer to see the proceedings in the building will be restricted to different localities. Although this is decided on with the best intention, we are disposed to fear it will give rise to dissatisfaction.

MANSION FOR THE MARQUIS OF BREADALBANE. A large mansion is to be erected by the Marquis of Breadalbane, near Oban. The contract has been closed—Mr. Bayne, Bridge of Allan & Crieff, being the successful person.

THE HOLY SEPULCHRE AT JERUSALEM.—It is said that, in consequence of the demand made by France and Russia to the Porte, for authorization to repair the cupola of the Church of the Holy Sepulchre, those countries have each sent an architect to Jerusalem to examine the general state of the building. It appears, from the report of the two scientific men charged with that mission, that not only the cupola requires immediate repairs, but that the walls on which it is built are in an insecure state, and must be reconstructed; also, that repairs are indispensable in other parts of the building.

CROYDON.—Two plans for draining Norwood are under consideration. The plan of the chairman of the Croydon Board of Health is to take all the sewage to Beddington, and that of Mr. Fenton to have local filter works at Blind-corner, and on the land taken by the Board between Norbury and Norwood. The chairman's plan will cost 1s. in the pound to carry out, for thirty years; Mr. Fenton's about 5d. The great point to be decided is whether clay land, such as Norwood, is capable of cleansing sewage by irrigation. Mr. Fenton, according to the *South-Eastern Gazette*, is of opinion that it is; the chairman, that it is not.

BROADSTAIRS CHURCH AND CLOCK-TOWER.—It is intended to hold a bazaar in the first week in August, 1862, for the benefit of the funds raised to erect a tower and otherwise improve the church at Broadstairs, which has been called by a popular writer "a petrified haystack." Broadstairs, quietest of watering-places, is divided by the authorities from the mother church at St. Peter's, and is made a separate incumbency. It therefore becomes necessary to render the church more worthy of its destination. Mr. G. L. Taylor, long resident there, is acting as honorary architect. Above 300*l.* has been raised by a local subscription, and the tower is up in carcass to its summit. They want means to finish it.

THE OXFORD WORKHOUSE TENDERS. — At a special meeting of the local Board of Guardians, Dr. Adams stated that the committee had now to report that six tenders had been sent in, but they regretted to state that none of them came within the stipulated sum of 7,000*l.*, to which that Board was limited. The lowest tender was 7,205*l.* for bricks made on the ground, and 7,505*l.* for bricks not made on the ground, with a charge for additional works not mentioned in the specifications, at 231*l.* The committee were, therefore, of opinion that it was of no use their attempting to carry their labours further. Some discussion followed, after which it was formally resolved that the report of the committee be received; that none of the tenders be accepted; and that the plans and specifications be sent back to the competing architects, with a letter from the clerk stating that none of the builders' estimates came under the specified sum. It was also resolved that a committee be appointed to report to the Board on the proper steps to be taken with a view to erecting a workhouse on the site newly purchased as speedily as possible.

CHATHAM: OPENING OF THE SOLDIERS' INSTITUTE.—The building recently erected in the rear of Chatham Barracks, for a "Home" or "Institute" for the use of the troops stationed at this garrison, has been opened by Major-General Eyre. The building was completed several months since, but the opening was postponed. The Institute was built by Mr. Stump, of Brompton. The principal entrance, which is in the main road near Melville Hospital, is approached by a flight of stone steps. The building, as described in the *Chatham News*, comprises on the ground floor two large smoking and reading rooms, which are provided with bagatelle tables, draughts, and numerous other games, and well furnished with newspapers. There are also rooms for the accommodation of the person in charge of the establishment. The upper story is composed of the library, consisting of upwards of 4,000 volumes, and a spacious lecture-room. The whole of this story can be thrown open into one large room, about 80 feet in length and 50 feet in width. A building has also been erected in the immediate vicinity of the Institute which is to be fitted up as an American bowling-alley; and there is a fives and racket court; and ground is set apart to be covered in and fitted up for skittles. For all the advantages of the establishment only 1d. per week is asked. There is reason to believe that the Government will erect a gymnasium upon the adjoining ground, should the Institute prove successful.

THE CENTRAL COTTAGE IMPROVEMENT SOCIETY.—A *conversazione* was held on Tuesday evening at the National Club, Whitehall-gardens, for the purpose of exhibiting various models of cottages, and of affording information as to the dwellings of the labouring classes. The meeting was presided over by Mr. Macartney.

THE SHAKSPEARE FUND.—On Monday evening last Mr. Dillon Croker, son of the late Mr. Crofton Croker, gave some "Selections from the English Dramatists" in the Vestry Hall, Chelsea; the proceeds to be applied in aid of the fund now being raised to effect certain purchases at Stratford. In these selections he personated all the leading actors of the present generation, including Kean, Phelps, Fechter, Webster, Farren, Harley, Buckstone, Keeley, Compton, Wright, Paul Bedford, Robson, Sothern, as the popular *Lord Dundreary*, and other well-known artists. Of these imitations it is impossible to speak too highly; and the assembly acknowledged the closeness of the imitation and the good taste that guided it by repeated hearty plaudits. Mr. Croker possesses a power of a remarkable kind.

DEATH OF MR. JOHN EDWARD ERRINGTON, C.E.—The death of this eminent engineer, whose name was intimately associated with that of the late Mr. Joseph Locke, M.P., in the history of railway enterprise in this country, took place on the 4th inst. Mr. Errington was born at Hull in the year 1806, and was actively engaged in the development of the railway system, especially upon those lines connecting England and Scotland; and, with Mr. Locke, was engineer to the Glasgow and Greenock Railway and Dock, the Lancaster and Carlisle, the Caledonian, the East Lancashire, the Scottish Central, Scottish Midland, and Aberdeen railways. About the year 1850, Mr. Errington was appointed, jointly with Mr. Locke, consulting engineer for the northern division of the London and North-Western Railway; and in that capacity constructed many of the branches and extensions of that system. He was also, up to the time of his death, engineer-in-chief to the London and South-Western Railway; and superintended the construction of the lines, just completed, connecting that system with Exeter and the west of England.

WORCESTERSHIRE DIOCESAN ARCHITECTURAL SOCIETY.—The first general meeting and excursion of this Society for the present year has been held. The *route* lay to Fladbury, Charltons, Cropthorne, Elmley Castle, Netherton, Bricklehampton, Little Comberton, Great Comberton, and Eckington, embracing a part of the valley between the Avon and Bredon Hill. The weather was all that could be desired. After visiting Fladbury Church—having reached Fladbury by rail—the party crossed the old ferry and walked through some cornfields to the old manor-house of the Dingleys or Dineleys of Charltons, and thence to Cropthorne, whence they were conveyed by coach to the other places in their visitation. At Cropthorne they were hospitably entertained at the rectory by the rector, the Rev. Mr. Sanders; and at Little Comberton, by the Rev. William Parker, the rector. The party returned from Eckington at seven o'clock in the evening. Mr. J. S. Walker, as secretary, added interest to the excursion by papers and explanatory remarks.

ARTIFICIAL STONE, &C.—Letters patent, dated 26th October, 1860, and sealed 12th February, 1861, have been taken out by Mr. Frederick Settle Barff, of the city and county of Dublin, for the invention of "Improvements in the production of artificial stone, which improvements are also applicable to the preservation of stone, bricks, tiles, and other analogous substances or materials." The following is a quotation from the specification:—"To obtain artificial stone by my improved process, I employ powdered pumice-stone in combination with soluble silicates, such as silicate of soda or silicate of potash; the said silicates being combined with or decomposed by carbonate of lead, carbonate of zinc, or other suitable material insoluble in water, which will decompose or chemically unite with the said silicates. The proportions I prefer to employ are as follows:—Silicate of soda (sp. gr. 1470), or otherwise as above mentioned, 10 drams by measure; powdered pumice-stone, 2 lb. by weight; carbonate of lead, or otherwise, 4 oz. by weight. Which composition, when placed in moulds of the required form, sets of itself, and becomes hard and insoluble in water without the agency or action of heat. Proportionate quantities of chalk, sand, or other similar or suitable substance may also be incorporated with the compound, and thus enable it to be obtained at less cost in accordance with the nature or description of the work to which it is intended to be applied."

SOUTH KENSINGTON MUSEUM. — During the week ending 5th of July, 39,793 persons visited the museum.

SOCIETY OF ARTS' CONVERSAZIONE.—The Society of Arts held a *conversazione* at the South Kensington Museum on Wednesday evening last, which was most numerously attended, and in all respects successful.

ANOTHER LONDON HOTEL.—A prospectus has been issued of the Langham Hotel Company, with a capital of 150,000*l.*, in shares of 10*l.*, with the view of purchasing Mansfield House and gardens, Langham-place, to be converted into an hotel. The size of the building is to exceed that of the Grosvenor Hotel by one-half.

RESTORATIONS; RIPON CATHEDRAL.—At a meeting recently held, the Dean and Chapter of Ripon accepted the tender of Messrs. Ruddle & Thompson, of Peterborough, for the proposed restoration of the cathedral. The works are to be carried out under the direction of Mr. Scott, and are estimated at 30,000*l.*

PIER AT BLACKPOOL.—The first pile of the new pier at Blackpool was screwed into place on Friday before last. The pier is to be 1,360 feet long and 25 feet wide, and will be supported, in spans of 60 feet each, upon circular piles, with screws 2 feet 9 inches in diameter. The engineer is Mr. E. Birch, C.E., of Parliament-street; and the contract, for 11,500*l.*, has been taken by Mr. Laidlaw, of Glasgow. The whole is to be completed in about five months.

DRINKING-FOUNTAIN MOVEMENT.—The fountain, erected at Rhyl, by public subscription, to commemorate the coming of age of Mr. Conwy Grenville Hercules Rowley, of Bodrhyddan, Rhyl, is now completed, with the exception of the inscription tablet. The Rhyl waterworks proprietors supply the fountain with water free of charge. There are two basins for the human supply and a trough for the canine race. The architect was Mr. T. M. Penson, of Chester; and the builder, Mr. W. Thomas, of Rhyl. It is built of Cefn stone, and the basins are of polished limestone.

ROYAL COMMISSIONS.—According to a Parliamentary return, the Fine Arts Commission, which was appointed in 1841 in reference to the rebuilding of the Houses of Parliament, consisted of thirty-one members, and no less than eighteen of them have since died: its expenses have exceeded 16,000*l.* The Commission on utilizing the Sewage of Towns was appointed five years ago: its expenses to this time have been 1,880*l.* The most expensive commissions of recent years have been the Popular Education Commission, which cost 12,997*l.*; the Weedon Store Accounts Commission, 9,847*l.*; the Defence of the Realm Commission, 8,041*l.*; and the Lights, Buoys, and Beacons Commission, 6,370*l.*

MESSRS. HARTLEY'S GLASS WORKS.—An interesting model of Messrs. Hartley's extensive glass-works has been placed in the gallery of the Crystal Palace at Sydenham, showing the buildings required for the manufacture of the various kinds of glass,—crown, sheet, patent rough plate for roofing, coloured for artists, &c.; and the processes of flattening, blowing, warehousing, annealing, and packing, are exemplified. The model occupies a space of about 22 feet by 9 feet, and is crowded by the various chimneys and buildings necessary to a giant manufactory. The cones of some of the kilns are of glass, so as to show the interior fitting-up. The glass required for the Palace of Art at Kensington was made here,—about 600,000 superficial feet, weighing about 300 tons. The *Globe*, alluding to these works, says,—"It is scarcely credible that thirty years ago there was not a foot of sheet glass made in this country. About that time foreign workmen were brought over by Mr. Hartley, but the manufacture languished for several years, and did not fairly take root in English soil until the repeal of the Excise Duties in 1845. Yet what is the state of this industry now, in which we are exporting it very largely to all parts of the world? We are informed that the yearly production of sheet glass in England at the present time is equivalent to fifty millions of superficial feet of glass weighing 1 lb. to the foot, or more than sufficient to encircle the globe with a band 12 inches wide. One glass-house pot will produce about 150,000 to 160,000 feet per annum, and each furnace contains eight of these pots. Hence each furnace is capable of producing a million and a quarter superficial feet a year; and as Messrs. Hartley show ten glass-houses on their model, they could, if all produced the same glass as they supplied to Messrs. Kelk and Lucas, turn out 12,500,000 superficial feet per annum, or a foot per head for all the male population of the United Kingdom.

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.—A general meeting of the Norfolk and Norwich Archæological Society was held at Wells, on Thursday, June the 26th. In consequence of the distant point selected for the Society's observations on this occasion, and the absence of many members from home, the attendance was smaller than usual. The members assembled at Wells Church shortly after nine o'clock. It is a large and handsome church of the Perpendicular style; the chief attractions of the interior being the carved woodwork in the roof of the aisles, which is unusually fine; the old brass lectern; and the doorway to the vestry on the north side of the chancel. Warborough Hill; Stiffkey Church; Morston Church, where the lower part of the tower appears to be of Norman date; Blakeney, a fine Perpendicular building, with a lofty tower at the west end, and a singular lantern tower at the north-east end of the chancel, which is supposed to have been used as a light-house or beacon; and the church of Cley-next-the-Sea, were visted at the last. A paper on the church was read by Mr. R. M. Phipson. Briefly noticing the remains of ancient houses in the streets at Cley, the party inspected Wiveton and other churches, and then home.

TENDERS.

For second contract, Kensington Presbyterian church, Foxley-road. Mr. J. M. McCulloch, architect. Quantities supplied:—

Bird	£2,042 0 0
Temple & Foster	1,950 0 0
Dove, Brothers	1,785 0 0
Greig (accepted)	1,669 0 0

For the erection of a warehouse in Wood-street, City, for Mr. J. S. Basset. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Myers & Sons	£1,991 0 0
Lawrence & Sons	1,880 0 0
Ashby & Sons	1,847 0 0
Brass	1,797 0 0
Wills	1,715 0 0
Piper & Wheeler	1,700 0 0
Cannon	1,569 0 0

For re-building Messrs. Robinson & Hetley's Auction-rooms, in Old Bond-street, W. Mr. George Truefitt, architect:—

	1st Contract.	2nd Contract.
Patrick & Son	£2,747	£220
I'Anson	2,638	225
Patman & Fotheringham	2,595	235
Longmire & Burge	2,379	215
Scrivener & White	2,358	209
Waters	2,345	197
Clarke & Mannooch	2,300	195
Allen	2,285	190

For farm steading at Teigh, in the county of Rutland. Mr. R. W. Johnson, architect:—

Clifton & Firn	£2,843 0 0
Halliday & Cave	2,454 14 5
Robinson	2,449 15 0
Hobson & Taylor	2,345 0 0
Fast	2,110 0 0

For works at the import warehouses and uptown warehouses, for the East and West India Dock Company, under the direction of Mr. George Adam Young, architect to the Dock Company. Quantities supplied by Mr. Charles J. Shoppee and Messrs. Williams & Schofield:—

Ashby & Horner	£16,900 0 0
Lucas, Brothers	16,780 0 0
G. Smith, Son, & Taylor	16,235 0 0
G. Mansfield & Son	15,900 0 0
W. Cubitt & Co.	15,890 0 0
Lawrence & Sons	14,740 0 0
Holland & Hannen	14,716 0 0
Munday (accepted)	13,627 0 0

For the erection of a Free Methodist Chapel at Wisbeach, Cambs. Mr. F. Boreham, architect:—

Andrews	£1,137 0 0
Clare	1,087 0 0
Lancaster	1,072 0 0
Batterham	1,012 0 0
Bennett & Sons (accepted)	851 3 0
Hutcheson	851 0 0

For cemetery chapels, lodge, mortuaries, and boundaries, Rugby, Warwickshire. Mr. George Bidlake, architect:—

Sawyer	£5,028 0 0
Addenbrook	3,900 0 0
Satchell	3,270 18 6
Robinson	3,220 0 0
Cosford	3,173 0 0
Birchall	3,128 0 0
Bromich	3,121 15 0
Woolridge	3,012 0 0
Parnell	3,000 9 2
Horsman	2,965 0 0
Hallam	2,916 5 0
Denney	2,890 7 2
Trow	2,857 16 8
Burkett	2,720 0 0

For factory and warehouse, Leicester. Mr. George Bidlake, architect:—

Herbert	£1,490
Wykes	1,254
Neale	1,219
Johnson	1,201
Thurlby	1,176

For building three houses, Warwick-road, Kensington. Mr. Josiah Houle, architect:—

Stanham	£1,773 0 0
Bird	1,725 0 0